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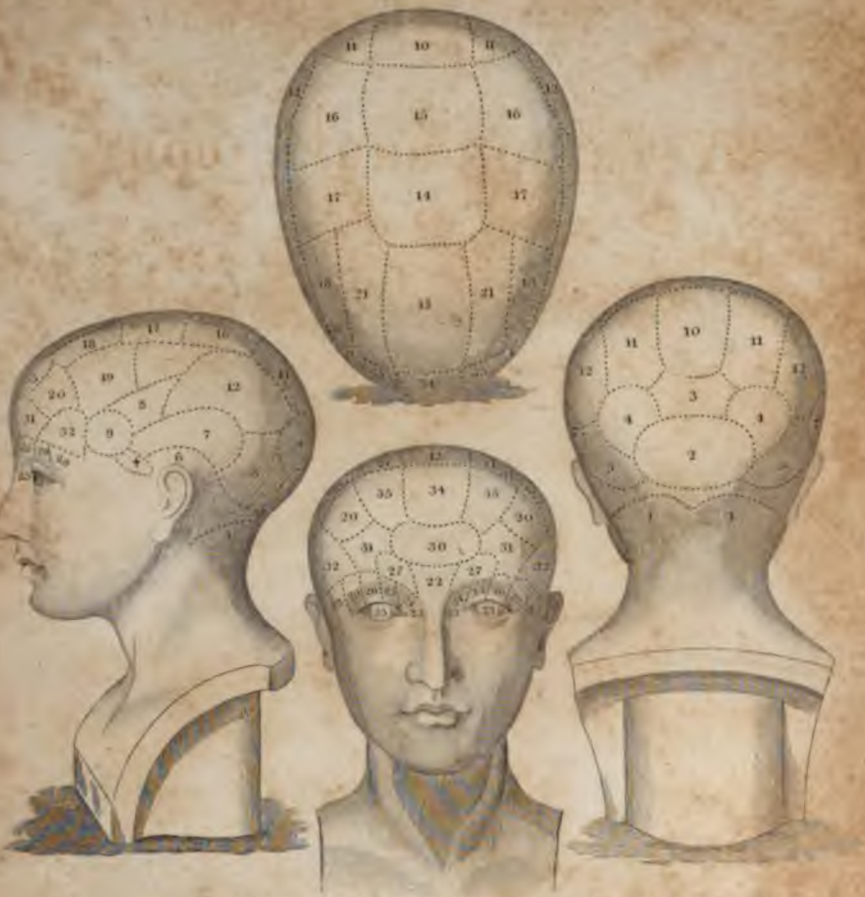

NAMES OF THE PHRENOLOGICAL ORGANS

REFERRING TO THE FIGURES INDICATING THEIR RELATIVE POSITIONS.

AFFECTIVE

I. PROPENSITIES

1 *Amativeness*
2 *Philoprogenitiveness*
3 *Concentrativeness*
4 *Adhesiveness*
5 *Combativeness*
6 *Destructiveness*
† *Alimentiveness*
7 *Secretiveness*
8 *Acquisitiveness*
9 *Constructiveness*

II. SENTIMENTS

10 *Self-esteem*
11 *Love of approbation*
12 *Cautiousness*
13 *Benevolence*
14 *Veneration*
15 *Firmness*
16 *Conscientiousness*
17 *Hope*
18 *Wonder*
19 *Ideality*
Unascertained
20 *Wit or Mirthfulness*
21 *Imitation*

INTELLECTUAL

I. PERCEPTIVE

22 *Individuality*
23 *Form*
24 *Size*
25 *Weight*
26 *Colouring*
27 *Locality*
28 *Number*
29 *Order*
30 *Eventuality*
31 *Time*
32 *Tune*
33 *Language*

II. REFLECTIVE

34 *Comparison*
35 *Causality*

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A

SYSTEM OF PHRENOLOGY.

BY

GEORGE COMBE.

LATE PRESIDENT OF THE PHRENOLOGICAL SOCIETY.

Res non verba quæso.

FOURTH AMERICAN FROM THE THIRD EDINBURGH EDITION.

REVISED AND ENLARGED BY THE AUTHOR.

BOSTON:
MARSH, CAPEN, AND LYON.
1837.

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2/01

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TO THE AMERICAN EDITION.

I HAVE been requested to prepare a corrected edition of this work for the American press, and with the greatest satisfaction have complied with the solicitation. The United States stand in an enviable position as a nation. To a territory almost boundless, a soil in the highest degree fertile, and every variety of climate, are added what no other people on earth enjoy, a constitution entirely free, and social institutions calculated to encourage the boldest exercise of the human understanding. They require only, in addition, a sound and practical system of mental philosophy, to enable them to attain to a moral and intellectual preeminence commensurate with their physical and political advantages. Phrenology professes to be such a system; and as such I present it to their consideration. The great discoverer of it has been for several years numbered with the dead, and to him alone belongs the glory of having presented this invaluable gift to mankind. His illustrious colleague died lately in the arms of American citizens: They did honor to him, to themselves, and to their country, by their generous conduct towards him while alive, and the reverence paid to his memory when dead. We who remain profess to be only humble disciples, made wise by the wisdom of our masters, and shining with a light reflected from their brightness. In proclaiming the value and importance of their doctrines, therefore, we assume no merit to ourselves; we simply invite others to partake of a moral and intellectual banquet which we have enjoyed with the highest relish, and found to conduce to our happiness and improvement.

The organs are delineated in the Plate according to their most general appearances. There are however slight differences in national heads, which give rise to small variations in the lines of demarcation in the plates of different phrenologists. By appealing to nature, the student will soon learn to discriminate the positions and limits of each organ; and I recommend practice as the best means of removing every difficulty.

My excellent and lamented friend Dr. Spurzheim no longer lives to hear the expression of my gratitude and affection. I can now only revere his memory; and in paying the highest tribute to his admirable dispositions, exalted talents, and extensive attainments, I know that I shall have the heartfelt concurrence of every American who enjoyed the pleasure of his personal acquaintance. To the best of my knowledge, there is no material point of doctrine on which he and I differed, except concerning the functions of the organ No. III.[*] I continue to entertain the views expressed in my works in regard to it. I may now add, without indelicacy, that it was perhaps the only cerebral organ in which the superiority of developement lay on my side, and that every one understands best the functions of those organs which are largest in his own brain. It was remarkably small in Dr. Spurzheim, and it appeared to me that he never comprehended the effect produced by it when large. The point, however, is left open for the judgment of all inquirers.

23 CHARLOTTE SQUARE,
EDINBURGH, Sept., 1833.

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[*] *Inhabitiveness*, in Spurzheim's arrangement No. IV.

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TO THE THIRD EDITION

THE call for a third edition of this work is a proof that the public continues to take an interest in the subject of which it treats. In the Introduction to this edition, a full exposition is presented of the principles on which Phrenology is founded, written for the information of readers who may be in doubt whether or not it is worthy of philosophical consideration. In other parts of the work, considerable additions have been made. Figures have been introduced to illustrate the forms of several of the heads described. These, although far from being sufficient to convey complete and correct notions of the objects represented, will be useful in giving more precision to the reader's conceptions, and may induce him to make observations in the great field of nature. It was my wish to have had all the figures drawn to a scale, but the engraver has not been successful in realizing this intention. The outline is accurate, and there is an approximation to one standard of proportion in the different figures; but it is not such as enables me to exhibit a scale.

Two subjects treated of in the second are omitted in this edition, *1st*, "On the Harmony of the Mental Faculties with each other, and with the Laws of Physical Nature;" and *2dly*, "On Insanity and Criminal Legislation." The first is now embraced in my work, "On the Constitution of Man and its relations to external objects," in which the practical application of Phrenology to conduct, education, and the science of morals, is treated of; and the second is more amply discussed in Dr. Spurzheim's work on Insanity and in Dr. Andrew Combe's treatise on the same subject.

Since the publication of the second edition, some opponents, who deny the truth of Phrenology, have ascribed its success, which on the principle of its being false is anomalous, not to its inherent merits, but to the talent with which, as they are pleased to say, I have advocated its cause; and they have reminded the public, that I am known to the literary world only as a Phrenologist.

and the present volume is offered in compliance with that demand. In the present Work, I have adopted the title of a "System of Phrenology," on account of the wider scope, and closer connexion, of its parts; but pretend to no novelty in principle, and to no rivalry with the great founders of the science.

The controversial portions of the first edition are here almost entirely omitted. As the opponents have quitted the field, these appeared no longer necessary, and their place is supplied by what I trust will be found more interesting matter. Some readers may think that retributive justice required the continued republication of the attacks of the opponents, that the public mind, when properly enlightened, might express a just disapprobation of the conduct of those who so egregiously misled it; but Phrenology teaches us forbearance; and, besides, it will be misfortune enough to the individuals who have distinguished themselves in the work of misrepresentation, to have their names handed down to posterity, as the enemies of the greatest and most important discovery ever communicated to mankind.

In this work, the talents of several living characters are adverted to, and compared with the developement of their mental organs, which is a new feature in philosophical discussion, and might, without explanation, appear to some readers to be improper: But I have founded such observations on the *printed works, and published busts or casts*, of the individuals alluded to; and both of these being public property, there appeared no impropriety in adverting to them. In instances in which reference is made to the cerebral developement of persons, whose busts or casts are not published, I have ascertained that the observations will not give offence.

PREFACE.

The following are the circumstances which led to the publication of the present Work.

My first information concerning the System of Drs. Gall and Spurzheim, was derived from No. 49. of the Edinburgh Review. Led away by the boldness of that piece of criticism, I regarded their doctrines as contemptibly absurd, and their authors as the most disingenuous of men. In 1816, however, shortly after the publication of the Review, my friend Mr. Brownlee invited me to attend a private dissection of a recent brain, to be performed in his house by Dr. Spurzheim. The subject was not altogether new, as I had previously attended a Course of Demonstrative Lectures on anatomy by Dr. Barclay. Dr. Spurzheim exhibited the structure of the brain to all present, among whom were several gentlemen of the medical profession, and contrasted it with the bold averments of the Reviewer. The result was a complete conviction in the minds of the observers, that the assertions of the Reviewer were refuted by physical demonstration.

The faith placed in the Review being thus shaken, I attended the next course of Dr. Spurzheim's Lectures, for the purpose of hearing from himself a correct account of his doctrines. The Lectures satisfied me, that the system was widely different from the representations given of it by the Reviewer, and that, if true, it would prove highly important; but the evidence was not conclusive. I therefore appealed to Nature by observation, and at last arrived at complete conviction of the truth of Phrenology.

In 1818, the Editor of the "Literary and Statistical Magazine for Scotland," invited me to a free discussion of the merits of the system in his work, and I was induced to offer him some Essays on the subject. The notice these attracted led to their publication in 1819, in a separate volume, under the title of "Essays on Phrenology." A second edition of these Essays has since been called for

Few words will suffice in answer to these observations. Such critics greatly overrate the extent of my ability; for my strength lies in the goodness of my cause. I have *studied Phrenology*, and read its doctrines directly in the page of nature. What I assert in point of fact, I have seen; and what I maintain in argument, I have found confirmed by experience. Those who have attacked the doctrines, on the other hand, have not studied them as science; they have not read the facts, on which they found their objections, in the book of nature; they have not tried how their arguments would harmonize with other established truths; nor have they ascertained to what results their principles would lead if carried into practical effect. Full of confidence in themselves, and of contempt for their adversary, they have come to the combat without arms and without armor; and if in some instances they have reeled back from the encounter, their defeat must be ascribed solely to the inherent weakness of their cause:—it deprived them of the advantages of their talents, while truth added to the strength of the party assailed.

I plead guilty of being known to the world only as a Phrenologist. Believing, as I do, that the same Divine Wisdom which ordained the universe, presided also at the endowment of the brain with its functions; that the brain is the organ of the mind, and that mind is the noblest work of God; convinced, also, that this discovery carries in its train the most valuable improvements in education, morals, and in civil and religious institutions,—I cannot conceive a nobler employment than that of vindicating its claims to consideration, and stemming, to the extent of my feeble ability, the mighty flood of prejudice and injustice with which, like all other important discoveries, it has been nearly overwhelmed. To be recognised, hereafter, by impartial and enlightened men, as having been in any degree instrumental in braving the storm of popular derision with which Phrenology was at first assailed, will more than satisfy all the ambition for posthumous fame which ever fired my bosom; and I never was so extravagant as to expect, while alive, any reward from "the great in science and philosophy" except ridicule and dislike. They have chosen their part, and I have chosen mine: the long day will do justice to all.

EDINBURGH, October, 1830.

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CLASSIFICATION OF ORGANS.

ORDER I.—FEELINGS.

Genus I.—PROPENSITIES.

1. Amativeness.
2. Philoprogenitiveness.
3. Concentrativeness.
4. Adhesiveness.
5. Combativeness.
6. Destructiveness.

Alimentiveness.
Love of Life.

7. Secretiveness.
8. Acquisitiveness.
9. Constructiveness.

Genus II.—SENTIMENTS COMMON TO MAN WITH THE LOWER ANIMALS.

10. Self-Esteem.
11. Love of Approbation.
12. Cautiousness.

Genus III.—SUPERIOR SENTIMENTS.

13. Benevolence.
14. Veneration.
15. Firmness.
16. Conscientiousness.
17. Hope.
18. Wonder.
19. Ideality.
20. Wit or Mirthfulness.
21. Imitation.

ORDER II.—INTELLECTUAL FACULTIES.

Genus I.—EXTERNAL SENSES.

Feeling or Touch.
Taste.
Smell.
Hearing.
Sight.

Genus II.—INTELLECTUAL FACULTIES WHICH PERCEIVE EXISTENCE AND PHYSICAL QUALITIES.

22. Individuality.
23. Form.
24. Size.
25. Weight.
26. Coloring.

Genus III.—INTELLECTUAL FACULTIES WHICH PERCEIVE RELATIONS OF EXTERNAL OBJECTS.

27. Locality.
28. Number.
29. Order.
30. Eventuality.
31. Time.
32. Tune.
33. Language.

Genus IV.—REFLECTING FACULTIES.

34. Comparison.
35. Causality.

CLASSIFICATION OF ORGANS ACCORDING TO SPURZHEIM.

ORDER I.—FEELINGS, OR AFFECTIVE FACULTIES.

Genus I.—PROPENSITIES.

† Desire to live.
* Alimentiveness.
1. Destructiveness.
2. Amativeness.
3. Philoprogenitiveness.
4. Adhesiveness.
5. Inhabitiveness.
6. Combativeness.
7. Secretiveness.
8. Acquisitiveness.
9. Constructiveness.

Genus II.—SENTIMENTS.

10. Cautiousness.
11. Approbativeness.
12. Self-Esteem.
13. Benevolence.
14. Reverence.
15 Firmness.
16. Conscientiousness.
17. Hope.
18. Marvellousness.
19. Ideality.
20. Mirthfulness.
21. Imitation.

ORDER II.—INTELLECTUAL FACULTIES.

Genus I.—EXTERNAL SENSES.

Voluntary motion.
Feeling.
Taste.
Smell.
Hearing.
Sight.

Genus II.—PERCEPTIVE FACULTIES.

22. Individuality.
23. Configuration.
24. Size.
25. Weight and resistance.
26. Coloring.
27. Locality.
28. Order.
29. Calculation.
30. Eventuality.
31. Time.
32. Tune.
33. Artificial language.

Genus III.—REFLECTIVE FACULTIES.

34. Comparison.
35. Causality

DIRECTIONS TO THE BINDER.

The Plate of the Phrenological Bust faces the Title-Page.
The Plate, representing Ideality in CHAUCER, &c., faces p. 333.

A

SYSTEM OF PHRENOLOGY.

INTRODUCTION.

PHRENOLOGY, derived from φρην mind, and λογος discourse, professes to be a system of Philosophy of the Human Mind, and, as such, it ought to throw light on the primitive powers of feeling which incite us to action, and the capacities of thinking that guide our exertions till we have attained the object of our desires. It was first presented to public consideration on the Continent of Europe in 1796, and in Britain in the year 1814. It has met with strenuous support from some individuals, and determined opposition from others, while the great body of the public remain uninstructed in its merits. On this account, it may be useful to present, in an introductory form, 1*st*, A short notice of the reception which other discoveries have met with on their first announcement; 2*dly*, A brief outline of the principles involved in Phrenology; 3*dly*, An inquiry into the presumptions for and against these principles, founded on the known phenomena of human nature; and, 4*thly*, A historical sketch of their discovery.

I shall follow this course, not with a view of convincing the reader that Phrenology is true, because nothing short of patient study and extensive personal observation can produce this conviction, but for the purpose of presenting him with motives to prosecute the investigation for his own satisfaction.

1*st*, Then, one great obstacle to the reception of a discovery is the difficulty which men experience of at once parting with old notions which have been instilled into their minds from infancy, and become the stock of their understandings. Phrenology has encountered this impediment, but not in a greater degree than other discoveries which have preceded it. Mr. Locke, in speaking of the common reception of new truths, says, "Whoever, by the most cogent arguments, will be prevailed upon to disrobe himself at once of all his old opinions and pretensions to knowledge and learning, which, with hard study, he hath all his lifetime been laboring for, and turn himself out stark naked in quest of fresh notions? All the arguments that can be used, will be as little able to prevail as the wind did with the traveller to part with his cloak, which he held only the faster." (Book iv. c. 20. § 11.)

Professor Playfair, in his historical notice of discoveries in physical science, published in the Supplement to the Encyclopædia Britannica, observes, that "in every society there are some who think themselves interested to maintain things in the condition wherein they have found them. The considerations are indeed sufficiently obvious, which, in the moral and political world, tend to produce this effect, and to give a stability to human institutions often so little proportionate to their real value, or to their general utility. Even in matters purely intellectual, and in which the abstract truths of arithmetic and geometry seem alone concerned, the prejudices, the selfishness, or the vanity of those who pursue them, not unfrequently combine to resist improvement, and often engage no inconsiderable degree of talent in drawing back, instead of pushing forward, the machine of science. The introduction of methods entirely new, must often change the relative place of the men engaged in scientific pursuits, and must oblige many, after descending from the stations they formerly occupied, to take a lower position in the scale of intellectual improvement. The enmity of such men, if they be not animated by a spirit of real candor and the love of truth, is likely to be directed against methods by which their vanity is mortified, and their importance lessened."—*Dissertation*, part ii. p. 27.

Every age has afforded proofs of the justness of these observations. "The disciples of the various philosophical schools of

Greece inveighed against each other, and made reciprocal accusations of impiety and perjury. The people, in their turn, detested the philosophers, and accused those who investigated the causes of things, of presumptuously invading the rights of the Divinity. Pythagoras was driven from Athens on account of his novel opinions; and for the same reason Anaxagoras was confined in prison. Democritus was treated as a fool by the Abderites for endeavoring to find out the cause of madness by dissections; and Socrates, for having demonstrated the unity of God, was forced to drink the juice of hemlock."—*Dr. Spurzheim's Physiog. Syst.*

But let us attend in particular to the reception of the three greatest discoveries that have adorned the annals of philosophy, and mark the spirit with which they were hailed.

Mr. Playfair, speaking of the treatment of Galileo, says: "Galileo was twice brought before the Inquisition. The first time, a council of seven cardinals pronounced a sentence which, for the sake of those disposed to believe that power can subdue truth, ought never to be forgotten; viz. That to maintain the sun to be immovable, and without local motion, in the centre of the world, is an absurd proposition, false in philosophy, heretical in religion, and contrary to the testimony of Scripture; and it is equally absurd and false in philosophy to assert, that the earth is not immovable in the centre of the world, and, considered theologically, equally erroneous and heretical."

Mr. Hume, the historian, mentions the fact that Harvey was treated with great contumely on account of his discovery of the circulation of the blood, and in consequence lost his practice. An eloquent writer, in the 94th Number of the Edinburgh Review, when adverting to the treatment of Harvey, observes, that "the discoverer of the circulation of the blood—a discovery which, if measured by its consequences on physiology and medicine, was the greatest ever made since physic was cultivated—suffers no diminution of his reputation in our day, from the incredulity with which his doctrine was received by some, the effrontery with which it was claimed by others, or the knavery with which it was attributed to former physiologists, by those who could not deny and would not praise it. The very names of these envious and dishonest enemies of Harvey are scarcely remembered; and the honor of this great discovery now rests, beyond all dispute, with the great philosopher who made it." This shows that Harvey, in his day, was treated exactly as Dr. Gall has been in ours; and if Phrenology be true, these, or similar terms, may one day be applied by posterity to him and his present opponents.

Again, Professor Playfair, speaking of the discovery of the composition of light by Sir Isaac Newton, says, "Though the discovery now communicated had every thing to recommend it which can arise from what is great, new, and singular; though it was not a theory or system of opinions, but the generalization of facts made known by experiments, and though it was brought forward in a most simple and unpretending form, a host of enemies appeared, each eager to obtain the unfortunate pre-eminence of being the first to attack conclusions which the unanimous voice of posterity was to confirm." (P. 56.) "Among them, one of the first was Father Pardies, who wrote against the experiments, and what he was pleased to call the Hypothesis of Newton. A satisfactory and calm reply convinced him of his mistake, which he had the candor very readily to acknowledge. A countryman of his, Mariotte, was more difficult to be reconciled, and though very conversant with experiment, appears never to have succeeded in repeating the experiments of Newton."

Here, then, we see that persecution, condemnation, and ridicule, awaited Galileo, Harvey, and Newton, for announcing three great physical discoveries. In mental philosophy, the conduct of mankind has been similar.

Aristotle and Des Cartes "may be quoted as examples of the good and bad fortune of new doctrines. The ancient antagonists of Aristotle caused his books to be burned. Afterwards, these books were received with a veneration equal to that due to inspiration itself; and even so late as the time of Francis I., the writings of Ramus against Aristotle were publicly burned, his adversaries were declared heretics, and, under pain of being sent to the galleys, philosophers were prohibited from combating his opinions.

At the present time the philosophy of Aristotle is no longer spoken of. Again, Des Cartes was persecuted for teaching the doctrine of innate ideas; he was accused of Atheism, though he had written on the existence of God; and his books were burnt by order of the University of Paris. A short time after, the same University adopted the doctrine of Des Cartes in favor of innate ideas; and when Locke and Condillac attacked it, there was a general cry of materialism and fatalism. Thus, the same opinions were considered at one time as dangerous because they were new, and at another as useful because they were ancient. What is to be inferred from this, but that man deserves pity; that the opinions of contemporaries, in respect to the truth or falsehood, and the good or bad consequences of a new doctrine, are altogether suspicious; and that the only object of an author ought to be that of pointing out the truth?"—*Dr. Spurzheim's Physiog. Syst.* p. 488.

To these extracts many more might be added of a similar nature; but enough has been said to demonstrate, that, by the ordinary practice of mankind, great discoveries are treated with hostility by the generation to whom they are addressed.

If, therefore, Phrenology be a discovery at all, and especially if it be also important, it must of necessity come into collision, on the most weighty topics, with the opinions of men hitherto venerated as authorities in physiology and the philosophy of mind; and, according to the custom of the world, nothing except opposition, ridicule, and abuse, could be expected on its first announcement.

If we are to profit, however, by the lessons of history, we ought, after surveying these mortifying examples of human weakness and wickedness, to dismiss from our minds every prejudice against our present subject, founded on its hostile reception by men of established reputation of the present day. He who does not perceive that if Phrenology shall prove to be true, posterity will view the contumelies heaped by the philosophers of this generation on its founders as another dark speck in the history of scientific discovery, and he who does not feel anxious to avoid all participation in this ungenerous treatment, has reaped no moral improvement from the records of intolerance which we have now contemplated: but every enlightened individual will say, Let us dismiss prejudice, and calmly listen to evidence and reason; let us not encounter even the chance of adding our names to the melancholy list of the enemies of mankind, by refusing, on the strength of mere prejudice, to be instructed in the new doctrines when submitted to our consideration; let us inquire, examine, and decide.

These, I trust, are the sentiments of the reader; and on the faith of their being so, I shall proceed, in the second place, to state very briefly the principles of Phrenology itself.

It is a notion inculcated, often indirectly no doubt, but not less strongly, by highly venerated teachers of intellectual philosophy, that we are acquainted with Mind and with Body, as two distinct and separate entities. The anatomist treats of the body, and the logician and moral philosopher of the mind, as if they were separate subjects of investigation, either not at all, or only in a remote and unimportant degree connected. In common society, too, men speak of the dispositions and faculties of the mind, without its occurring to them that they are in close connexion with the body.

But the Human Mind, as it exists in this world, cannot, *by itself*, become an object of philosophical investigation. Placed in a material world, it cannot act or be acted upon, but through the medium of an organic apparatus. The soul sparkling in the eye of beauty does not transmit its sweet influence to a kindred spirit, but through the filaments of an optic nerve; and even the bursts of eloquence which flow from the lips of the impassioned orator, when mind appears to transfuse itself almost directly into mind, emanate from, and are transmitted to, corporeal beings, through a voluminous apparatus of organs. If we trace the mind's progress from the cradle to the grave, every appearance which it presents reminds us of this important truth. In earliest life the mental powers are feeble as the body, but when manhood comes, they glow with energy, and expand with power; till, at last, the chill of age makes the limbs totter, and the fancy's fires decay.

Nay, not only the great stages of our infancy, vigor, and decline, but the experience of every hour, remind us of our alliance with the dust. The lowering clouds and stormy sky depress the spirits and enerve the mind;—after short and stated intervals of toil, our wearied faculties demand repose in sleep; famine or disease is capable of levelling the proudest energies in the earth; and even the finest portion of our compound being, the Mind itself, apparently becomes diseased, and, leaving Nature's course, flies to self-destruction to escape from wo.

These phenomena must be referred to the organs with which, in this life, the mind is connected; but if the organs exert so great an effect over the mental manifestations, no system of philosophy is entitled to consideration, which would neglect their influence, and treat the thinking principle as a disembodied spirit. The phrenologist, therefore, regards man as he exists in this sublunary world; and desires to investigate the laws which regulate the connexion between the organs and the mind, but without attempting to discover the essence of either, or the manner in which they are united.

It may be demonstrated, therefore, that the popular notion that we are acquainted with mind unconnected with matter, is founded on an illusion, that, in point of fact; we do not in this life know mind as one entity, and body as another; but that we are familiar only with the compound existence of mind and body, which act constantly together, and are so intimately connected that every state of mind involves a corresponding state of certain corporeal organs, and every state of these organs involves a certain condition of mind. A few remarks will suffice to place this doctrine in its proper light.

1*st*, We are not *conscious* of the existence and functions of the organs by which the mind operates in this life, and, in consequence, many acts appear to us to be purely mental, which experiment and observation prove incontestably to depend on corporeal organs. For example, in stretching out or withdrawing the arm, we are conscious only of an act of the will, and of the consequent movement of the arm, but have no consciousness of the apparatus by means of which the volition is carried into execution. Experiment and observation, however, demonstrate the existence of bones of the arms curiously articulated and adapted to motion, of muscles endowed with powers of contraction, and attached with infinite skill to the bones so as to put them in motion with the least effort, and in the most beneficial manner; and, lastly, three sets of nervous fibres all running in one sheath, namely, one which communicates feeling, a second which transmits motion, and a third which communicates to the mind information of the state of the muscles when acted on by the other two; and all these organs must combine and act harmoniously before the arm can be moved by the will on any one occasion. All that a person uninstructed in anatomy knows is, that he wills the motion, and that it takes place; the whole act appears to him to be purely mental, and only the thing moved, namely, the arm, is conceived to be corporeal. Nevertheless, it is positively established by anatomical and physiological investigation, that this conclusion is erroneous—that the act is not purely mental, but is accomplished by the instrumentality of the various organs now enumerated. In like manner, every act of vision is connected with a certain state of the optic nerve, and every act of hearing, with a certain state of the tympanum, and other parts of the auditory apparatus, of the existence and functions of which we are altogether uninformed by consciousness.

Now, I go one step farther in the same path, and state, that every act of the will, every flight of imagination, every glow of affection, and every effort of the understanding in this life, is performed by means of an apparatus of organs unknown to us through consciousness, but which are capable of demonstration by experiment and observation; in other words, the brain is the organ of the mind. The greatest anatomists admit this proposition without hesitation. The celebrated Dr. Cullen of Edinburgh states, that "the part of our body more immediately connected with the mind, and therefore more especially concerned in every affection of the intellectual functions, is the common origin of the nerves; which I shall, in what follows, speak of under the appellation of the Brain." Again, the same author says, "We *cannot doubt* that the operations of our intellect *always* depend upon certain motions taking place in the brain." The late Dr. Gregory, when speaking of memory, imagination, and judgment, observes, that "Although at first sight these faculties appear to be so purely mental as to have no connexion with the body, yet certain diseases which obstruct them prove, that a certain state of the brain is necessary to their proper exercise, and that the brain is the primary organ of the internal powers." The great physiologist of Germany, Blumenbach, says, "That the mind is closely connected with the brain, is demonstrated by our consciousness, and by the mental disturbances which ensue upon affections of the brain." (Elliotson's translation, 4th edit. vol. i. p. 196.) Magendie, a celebrated French physiologist, says, "The brain is the material instrument of thought. This is proved by a multitude of experiments and facts."

Dr. Neil Arnott, in his recent work on Natural Philosophy, writes thus: "The laws of mind which man can discover by reason, are not laws of independent mind, but of mind in connexion with body, and influenced by the bodily condition. It has been believed by many, that the nature of mind separate from body, is to be at once all-knowing and intelligent. But mind connected with body, can only acquire knowledge slowly, through the bodily organs of sense, and more or less perfectly, according as these organs and the central brain are perfect. A human being born blind and deaf, and therefore remaining dumb, as in the noted case of the boy Mitchell, grows up closely to resemble an automaton; and an originally misshapen or deficient brain, causes idiocy for life. Childhood, maturity, dotage, which have such differences of bodily powers, have corresponding differences of mental faculty: and as no two bodies, so no two minds, in their external manifestation, are quite alike. Fever, or a blow on the head, will change the most gifted individual into a maniac, causing the lips of virgin innocence to utter the most revolting obscenity, and those of pure religion, to speak the most horrible blasphemy: and most cases of madness and eccentricity can now be traced to a peculiar state of the brain." (Introduction, p. xxiii.) Let it be observed that these authors are nowise inclined to support Phrenology.

The fact that the mental phenomena of which we are conscious are the result of mind and brain acting together, is farther established by the effects of swooning, of compression of the brain, and of sleep. In profound sleep, consciousness is entirely suspended: this fact is explicable on the principle of the organ of the mind being then in a state of repose; but altogether inconsistent with the idea of the immaterial principle, or the mind itself, being capable of acting independently of the brain; for if this were the case, thinking should never be interrupted by any material cause. In a swoon, blood is rapidly withdrawn from the brain, and consciousness is for the moment obliterated; again, where part of the brain has been laid bare by an injury inflicted on the skull, it has been found that consciousness could be suspended at the pleasure of the surgeon, by merely pressing on the brain with his fingers, and that it could be restored by withdrawing the pressure.

A valuable authority on this point is furnished by the Edinburgh Review. The author of the article on the nervous system in the 94th Number of that work, says, "Almost from the first casual inspection of animal bodies, the brain was regarded as an organ of primary dignity, and more particularly in the human subject—the seat of thought and feeling, the centre of all sensation, the messenger of intellect, the presiding organ of the bodily frame." "All this superiority (of man over the brutes,) all these faculties which elevate and dignify him, this reasoning power, this moral sense, these capacities of happiness, these high aspiring hopes, are *felt*, and *enjoyed*, and *manifested*, by means of his superior nervous system. Its injury weakens, its imperfection limits, its destruction (humanly speaking) ends them."

In addition to these authorities, I may remark, that consciousness or feeling localizes the mind in the head, and gives us a full conviction that it is situated there; but it does not reveal what substance is in the interior of the skull. It does not tell whether the mind occupies an airy dome; a richly furnished mansion; one apartment, or many; or in what state or condition it resides in its appointed place. It is only on opening the head that we discover the skull to contain brain; and then, by an act of the understanding, we infer that the mind must have been connected with it in its operations.

It is worthy of observation also, that the popular notions of the independence of the mind on the body are modern, and the offspring of philosophical theories that have sprung up chiefly since the days of Locke. In Shakspeare, and our older writers, the brain is frequently used as implying the mental functions; and, even in the present day, the language of the vulgar, which is less affected by philosophical theories than that of polite scholars, is more in accordance with nature. "A stupid person is vulgarly called a numb-*skull*, a thick-*head*, or said to be addle-*pated;* badly furnished in the upper-story; while a clever person is said to be strong-headed, to have plenty of brains; a madman is called wrong in the head, touched in the noddle, &c. When a catarrh chiefly affects the head, we complain of stupidity, because we have such a cold in the head," &c. (Elliotson's *Blumenbach*, 4th edit. p. 66.)

The principle which I have so much insisted on, that we are not conscious of the existence and functions of the organs by which the mind acts, explains the source of the metaphysical notion which has affected modern language, that we know the mind as an entity by itself. The acts which really result from the combined action of the mind and its organs, appear, previous to anatomical and pathological investigation, to be produced by the mind exclusively; and hence have arisen the neglect and contempt with which the organs have been treated, and the ridicule cast upon those who have endeavored to speak of them as important to the philosophy of mind. After the explanations now given, the reader will appreciate the real value of the following statement by Mr. Jeffrey, in his strictures on the second edition of this work, in the 88th number of the Edinburgh Review. His words are, "The truth is, we do not scruple to say it, that there is not the smallest reason for supposing that the mind ever operates through the agency of any material organs, except in its perception of material objects, or in its spontaneous movements of the body which it inhabits." And, "There is not the least reason to suppose that any of our faculties, but those which connect us with external objects, or direct the movements of our bodies, act by material organs at all;" that is to say, that feeling, fancy, and reflection, are acts so purely mental, that they have no connexion with organization.

Long before Mr. Jeffrey penned these sentences, however, Dr. Thomas Brown had written, even in the Edinburgh Review, that "Memory, imagination, and judgment, may be all set to sleep by a few grains of a very common and simple drug;" and Dr. Cullen, Blumenbach, Dr. Gregory, Magendie, and, in short, all physiological authors, had published positive statements that the mental faculties are connected with the brain.

What, then, does the proposition that the brain is the organ of the mind imply? Let us take the case of the eye as somewhat analogous. If the eye be the organ of vision, it will be conceded, first, That sight cannot be enjoyed without its instrumentality; secondly, That every act of vision must be accompanied by a corresponding state of the organ; and, *vice versa*, that every change of condition in the organ must influence sight; and, thirdly, That the perfection of vision will be in relation to the perfection of the organ. In like manner, if the brain be the organ of the mind, it will follow that the mind does not act in this life independently of its organ; and hence, that every emotion and judgment of which we are conscious, are the result of mind and its organ acting together. Secondly, That every mental affection must be accompanied with a corresponding state of the organ; and, *vice versa*, every state of the organ must be attended by a certain condition of the mind. And, thirdly, That the perfection of the manifestations of the mind will bear a relation to the perfection of its organ, just as perfection of vision bears a relation to the perfection of the eye. These propositions appear to be incontrovertible; and to follow as necessary consequences, from the simple fact that the mind acts by means of organization. But if they be well-founded, how important a study does that of the organ of the mind become!

It is the study of mind itself, in the only condition in which it is known to us. And the very fact that in past ages, mind has been studied without reference to organization, accounts for the melancholy truth, that up to the present day no philosophy of mind suited to practical purposes exists.

Holding it then as established by the evidence of the most esteemed physiologists, and also by observation, that the brain is the organ of the mind, and that the state of the brain influences its state, the next question which presents itself is, Whether the mind in *every act* employs the *whole* brain as one organ, or whether separate faculties of the mind are connected with distinct portions of the brain as their respective organs? The following considerations may enable us to solve this question:

1*st*, In all ascertained instances, different functions are never performed by the same organ, but, the reverse: each function has an organ for itself: thus, the stomach digests food, the liver secretes bile, the heart propels the blood, the eyes see, the ears hear, the tongue tastes, and the nose smells. Nay, on analysing these examples, it is found that wherever the function is compound, each element of it is performed by means of a distinct organ; thus, to accomplish taste there is one nerve, whose office is to move the tongue, another nerve whose duty it is to communicate the ordinary sense of feeling to the tongue, and a third nerve which conveys the sensations of taste. A similar combination of nerves takes place in the hands, arms, and other parts of the body, which are the organs of feeling; namely, one nerve gives motion, another feeling, and a third conveys to the mind a knowledge of the state of the organ; and, except in the case of the tongue, all these nerves are blended in one common sheath.

In the economy of the human frame, there is no ascertained example of one nerve performing two functions, such as feeling and communicating motion, or seeing and hearing, or tasting and smelling. In the case of the brain, therefore, analogy would lead us to expect, that if reasoning be an act different from loving or hating, there will be one organ for reasoning, another for loving, and a third for hating.

2dly, [*] It is an indisputed truth, that the various mental powers of man appear in succession, and, as a general rule, that the reflecting or reasoning faculties are those which arrive latest at perfection. In the child, the powers of observing the existence and qualities of external objects arrive much sooner at their maturity than the reasoning faculties. Daily observation shows that the brain undergoes a corresponding change; whereas we have no evidence that the immaterial principle varies in its powers from year to year. If the brain, as a whole, is the organ of the mind, this successive developement of faculties is utterly at variance with what we should expect *a priori;* because, if the general organ is fitted for manifesting with success one mental faculty, it ought to be equally so for the operation of all, which we see is not the case. Observation, indeed, shows that different parts of the brain are really developed at different periods of life. In infancy, according to Chaussier, the cerebellum forms one-fifteenth of the encephalic mass; and in adult age, from one-sixth to one-eighth, its size being thus in strict accordance with the energy of the propensity of which it is the organ. In childhood, the middle part of the forehead generally predominates; in later life, the upper lateral parts become more prominent, which facts also are in strict accordance with the periods of unfolding of the knowing and reasoning powers.

3dly, Genius is almost always partial, which it ought not to be, if the organ of the mind were single. A genius for poetry, for mechanics, for drawing, for music, or for mathematics, sometimes appears at a very early age in individuals, who, in regard to all other pursuits, are mere ordinary men, and who, with every effort, can never attain to any thing above mediocrity.

4thly, The phenomena of dreaming are at variance with the supposition of the mind manifesting all its faculties by means of a single organ, while they are quite consistent with, and explicable by, that of a plurality of organs. In dreaming, the mind experiences numerous vivid emotions, such as those of fear, joy, affection, arising, succeeding one another, and departing without control from the intellectual powers;—or, it is filled with a thousand varied conceptions, sometimes connected and rational, but more frequently disjointed and absurd, and all differing widely from the waking operations of the mind, in wanting consistency, and sense. These phenomena harmonize remarkably with the doctrine of a variety of faculties and organs, some of which, being active, communicate those disordered ideas and feelings which constitute a dream, while the repose of others permits the disordered action characteristic of the fancy in sleep.

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[*] The following instances are taken from Dr. Andrew Combe's Observations on Dr. Barclay's Objections to Phrenology, published in the Transactions of the Phrenological Society, page 413.

Were the organ of mind single, it is clear that all the faculties should be asleep or awake to the same extent at the same time; or, in other words, that no such thing as dreaming could take place.

5thly, The admitted phenomena of Partial Idiocy and Partial Insanity, are so plainly and strongly in contradiction with the notion of a single organ of mind, that Pinel himself, no friend to Phrenology, asks if their phenomena can be reconciled to such a conception.

Partial Idiocy is that state in which an individual manifests one or several powers of the mind with an ordinary degree of energy, while he is deprived to a greater or less extent of the power of manifesting all the others. Pinel, Haslam, Rush, Esquirol, and, in short, every writer on insanity, speaks of the partial developement of certain mental powers in idiots; and Rush in particular not only alludes to the powers of intellect, but also to the partial possession of the moral faculties. Some idiots, he observes, are as remarkable for correct moral feelings as some great geniuses are for the reverse. In his Traité du Goitre et de la Crétinisme, Foderé thus speaks, p. 133:—"It is remarked, that, by an *inexplicable singularity*, some of these individuals (cretins,) endowed with so weak minds, are born with a particular talent for copying paintings, for rhyming, or for music. I have known several who taught themselves to play passably on the organ and harpsichord; others who understood, without ever having had a master, the repairing of watches, and the construction of some pieces of mechan ism." He adds, that these powers could not be attributed to the intellect, "for these individuals not only could not read books which treated of the principles of mechanics, but *ils etaient deroutés lorsqu'on en parlait et ne se perfectionnaient jamais.*" It must be observed also, that these unfortunate individuals differ very much in the *kind* as well as quantity of mental power possessed. For example, an instance is given by Pinel of an idiot girl who manifested a most wonderful propensity to *imitate* whatever she heard or saw, but who displayed no other intellectual faculty in a perceptible degree, and never attached an idea to the sound she uttered. Dr. Rush particularizes one man who was remarkable for his religious feelings, although exceedingly deficient in intellectual power, and other moral sentiments; and, among the cretins, many are to be found who scarcely manifest any other faculty of the mind except that of Amativeness. One is all kindness and good nature, another quarrelsome and mischievous. One has a lively perception of harmony in music, while another has none.

It ought also to be observed, that the characteristic features of each particular case are strictly permanent. The idiot, who to-day manifests the faculty of Tune, the feeling of Benevolence, of Veneration, or of Self-esteem, will not to-morrow, nor in a year, change the nature of his predominant manifestations. Were the deficiency of the *single* organ the *cause* of idiocy, these phenomena ought *not* to appear; for the general organ being able to manifest one faculty, ought, according to the circumstances in which the individual is placed, to be equally able to manifest all others, whose activity may be required, and thus the character of the idiocy ought to change with every passing event, which it never does. Foderé calls these "inexplicable singularities," and, no doubt, on his theory they truly are so. To the Phrenologist, however, they offer no difficulty, for they are in perfect harmony with *his* views. The difference in the *kind* of powers manifested in cases of partial idiocy, between the capacity for mechanics, for instance, and the sentiment of Veneration, Self-esteem, or Benevolence, is as great as between the sensations excited by the perception of a sound, a taste, or a smell. To infer, therefore, that one organ serves for the manifestation of all these faculties, is really much the same in point of logic as if we were to suppose all the external senses to communicate with the mind through the medium of only one nerve, in spite of the facts of many individuals being blind who are not deaf, or deaf and still able to see and smell.

Partial insanity, or that state in which one or more faculties of the mind are diseased, without affecting the integrity of the remainder, is known by the name of Monomania, and appears equally with the former to exclude the possibility of one organ executing the functions of all the mental faculties; for the argument constantly recurs, that if the organ be sufficiently sound to manifest one faculty in its perfect state, it ought to be equally capable of manifesting all,—which, however, is known to be in direct opposition to fact. On this subject, I shall confine myself to the statement of a very few instances, merely in illustration.

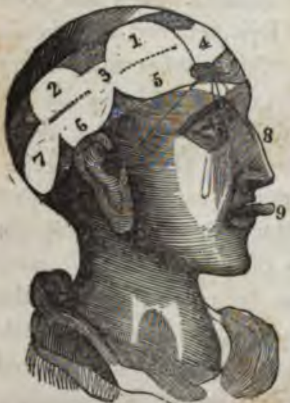
Of *folie raisonnante* Pinel thus speaks:—"Hospitals for the insane are never without some example of mania marked by acts of extravagance, or even of fury, with a kind of judgment preserved in all its integrity, if we judge of it by the conversation; the lunatic gives the most just and precise answers to the questions of the curious; no incoherence of ideas is discernible; he reads and writes letters as if his understanding were perfectly sound; and yet, by a singular contrast, he tears in pieces his clothes and bedcovers, and always finds some plausible reason to justify his wandering and his fury. This sort of mania is so far from rare, that the vulgar name of *folie raisonnante* has been given to it."—P. 93. Another equally interesting case from the same author may be cited. "It is difficult to conceive," says he, "the nature of one species of alienation of mind. It consists, as it were, of a combination of reason and extravagance, of discernment and actual delirium, which appear so inconsistent as reciprocally to exclude each other." "One lunatic," he continues, "whose malady is of seven years' standing, is perfectly aware of his state, and forms as sound a judgment of it as if it were a thing which did not immediately concern himself. He tries to make efforts to free himself from it; but, on the other hand, he is convinced that it is incurable. If any one remarks the incoherence in his ideas in his talking, he readily acknowledges it, but answers, that this inclination overpowers him so much, that he cannot but submit. He adds, that he does not guarantee the soundness of the judgments which he forms, but that it is not in his power to rectify them. He believes, for example, that if he wiped his nose, that organ would remain in his handkerchief; that if he shaved himself, he must of necessity cut his throat, and that, at the first attempt to walk, his legs would break like glass. He sometimes subjects himself to rigorous abstinence for several days, under the impression, that if he took aliments, they would suffocate him. What are we to think of an aberration of intellect so regular and so singular ?"--P. 94.

It would be easy for me to multiply such instances as these of the partial affection of the mental faculties, but it is needless to occupy time with more, and the above are amply sufficient to show the nature and bearing of such cases. Here again the difficulty recurs of reconciling such facts with the idea of one organ executing all the functions of the mind. How comes that organ to be able to manifest one, but *not all* the faculties ?

6thly, Besides the phenomena of idiocy and insanity, there is also another class of facts (to which, however, I shall only allude) equally at variance with the supposition of a single organ of mind, viz. partial injuries of the brain, which are said to have occurred without injury to the mental faculties. I merely observe, that if every part of the brain is concerned in every mental act, it appears strange that all the processes of thought should be manifested with equal success, when a great part of the brain is injured or destroyed, as when its whole structure is sound and entire. If the fact were really as here stated, the brain would form an exception to the general laws of organic structure; for although a part of the lungs may be sufficient to maintain respiration, or a part of the stomach to execute digestion, in such a way as to support life, there is no instance in which these functions have been as successfully performed by impaired organs as they would have been by lungs and a stomach in their natural state of health and activity. The Phrenologists are reduced to no such strait to reconcile the occurrence of such cases with their system; for as soon as the principle of a plurality of organs is acknowledged, they admit of an easy and satisfactory explanation.

From the preceding considerations, then, it appears that any theory, founded upon the notion of a single organ, is uniformly at variance with all that is ascertained to be fact in the philosophy of mind: and that, on the other hand, the principle of a plurality of organs, while it satisfactorily explains *most* of these facts, is consistent with *all* of them. Its truth is thus almost demonstrated, not by far-fetched or pretended facts, which few can verify, but by facts which daily "obtrude themselves upon the notice of the senses." This principle, indeed, bears on the face of it so much greater a degree of probability than the opposite one, as to have long since forced itself on the minds of many inquirers. Foderé himself a very zealous opponent of Phrenology, after recapitulating a great many reasons similar to those already mentioned, which had been employed by philosophers antecedent to Drs. Gall and Spurzheim, for believing in a plurality of mental organs, is constrained to admit, that "this kind of reasoning has been employed by the greater number of anatomists, who, from the time of Galen, down to those of our own day, and even by the great Haller, who experienced a necessity for assigning a function to each department of the brain. Pinel also (in the article Manie in the Encyclopedie Methodique) after relating some cases of partial insanity, asks, whether all this collection of facts can be reconciled with the opinion of a single faculty and a single organ of the understanding?" Farther, the Edinburgh Reviewer, also already referred to, commends Mr. Charles Bell for "attacking the common opinion, that a separate sensation and volition are conveyed by the same nerves, and for asserting 'the different functions of different parts of the cerebrum and cerebellum.'"

These considerations early impressed reflecting men with the conviction, that particular mental powers must be connected with particular parts of the brain; and accordingly, before the eighteenth century, when modern metaphysics sprung up, we find traces of this opinion common, not only among eminent anatomists and physiologists, but among authors on human nature in general. Burton, in his Anatomy of Melancholy, says, "Inner senses are three in number, so called, because they be within the brain-pan, as common sense, phantasie, and memory:" of common sense, "the fore part of the brain is his organ or seat;" of phantasie or imagination, which some call æstimative or cogitative, his "organ is the middle cell of the brain;" and of memory, "his seat and organ, the back part of the brain." This was the account of the faculties given by Aristotle, and repeated, with little variation, by the writers of the middle ages. In the thirteenth century, a head divided into regions, according to these opinions, was designed by Albert the Great, bishop of Ratisbon; and another was published by Petrus Montagnana, in 1491. One published at Venice, in 1562, by Ludovico Dolci, a Venetian, in a work upon strengthening and preserving the memory, is here represented:—



REFERENCES TO FIGURE.

1 Fantasia.
2 Cogitativa.
3 Vermis.
4 Sensus Communis.
5 Imagina.
6 Æstimativa.
7 Memorativa.
8 Olfactus.
9 Gustus.

In the British Museum is a chart of the universe and the elements of all sciences, in which a large head so delineated is conspicuous. It was published at Rome so late as 1632.*

If, then, the majority of anatomists, for the last two thousand years, and such illustrious physiologists as Haller, and the others above referred to, were led to the belief of a plurality of mental organs, by a perception of the contradiction and inconsistency existing between the phenomena, and the supposition of the whole brain being the single organ of mind, I cannot be far wrong in saying, that the latter notion, so far from being self-evident, appears so improbable as to require even stronger facts to prove it than the opposite view ; and that the presumptions are all in favor of a plurality of mental faculties, manifesting themselves by means of a plurality of organs.

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* Elliotson's Blumenbach, p. 205.

I have now endeavored to show, first, That the ridicule and abuse with which Phrenology was treated at its first announcement, and its continued rejection by men of established reputation, whose opinions it contradicts, afford no presumption that it is untrue, for all great discoveries have met with a similar fate : Secondly, That we are really unacquainted with the mind, as an entity distinct from the body, and that it is owing to the mind not being conscious of its organs, that metaphysicians have supposed their feelings and intellectual perceptions to be emanations of pure mind, whereas they are the results of mind and its organs acting in combination. Thirdly, That the greatest anatomists and physiologists admit the brain to be the organ of the mind, and common feeling localizes the mind in the head, although it does not inform us what substance occupies the interior of the skull : Farther, That the very idea of the mind having an organ, implies that every mental act is accompanied with an affection of the organ, and *vice versa;* so that the true philosophy of the mind cannot be discovered without taking the influence of the organs into account at every step. Fourthly, That the analogy of the nerves of feeling and motion, of the five senses, and other parts of the body, all of which perform distinct functions by separate organs ; also the successive appearance of the faculties in youth ; the phenomena of partial genius, of dreaming, of partial insanity, of monomania, and of partial injuries of the brain, furnish presumptive evidence that the mind manifests a variety of faculties by means of a variety of organs, and exclude the supposition of a single power operating by a single organ. The next inquiry, therefore, naturally is, What effect does the condition of the organs produce on the states of the mind? Is it indifferent whether the organs be large or small, well or ill constituted, in health or in disease?

I submit the following facts to prove that in other departments of organized nature, size in an organ, other conditions being equal, is a measure of power in its function, *i. e.* that small size indicates weak power, and large size strong power, all other circumstances being alike.*

In our infancy, we have been delighted with the fable of the old man who showed his sons a bundle of rods, and pointed out to them how easy it was to snap asunder one, and how difficult to break the whole. The principle involved in this simple story pervades all material substances; for example, a muscle is composed of a number of fleshy fibres, and hence it follows that each muscle will be strong in proportion to the number of fibres which enter into its composition. If nerves be composed of parts, a nerve which is composed of twenty parts must be more vigorous than one which is constituted of only one. To render this principle universally true, however, one condition must be observed, namely, that in comparing parts with each other, or with the whole, all shall be of the same quality; for example, if the old man in the fable had presented ten twigs of wood tied up in a bundle, and desired his sons to observe how much more difficult it was to break ten than to sever one; and if his sons, in refutation of this assertion, had presented him with a rod of iron of the same thickness as one twig, and said that it was as difficult to break that iron rod, although single, as his whole bundle of twigs, although tenfold, the answer would have been obvious, that the things compared differed in kind and quality; and that if he took ten iron rods, and tried to break them, the difficulty would be as great compared with that of severing one, as to break ten twigs of wood compared with that of breaking one. In like manner, nerves, muscles, brain, and all other parts of the body, may be sound, or they may be diseased; they may be of a fine structure or a coarse structure; they may be old or young; they may be almost dissolved with the burning heat of a tropical sun, or nearly frozen under the influence of an arctic winter; and it would be altogether irrational to expect that the influence of size was to stand forth as a fixed energy to overrule all these circumstances, and to produce effects constantly equal. The strength of iron itself and adamantine rock depends on temperature, for either will melt with a certain degree of heat, and at a still higher point they will be dissipated into vapor. The true principle then, is, that constitution, health, and outward circumstances being the same, a large muscle, or large nerve, composed of numerous fibres, will act with more force than a small one comprehending few.

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* This subject is fully treated of by Dr. Andrew Combe in an Essay on the Influence of Organic Size on Energy of Function, particularly as applied to the Organs of the external Senses and Brain, in the Phrenological Journal, vol. iv p. 161.

Let us, however, trace the influence of this law in animated beings. It will scarcely be disputed, that the strength of the bones is always, other circumstances being equal, proportioned to their size. So certain is this, that when nature requires to give strength to a bone in a bird, and, at the same time, to avoid increasing the weight of the animal, the bone is made of large diameter, but hollow in the middle; and, on mechanical principles, the increase of volume adds to its strength. That the law of size holds in regard to the bloodvessels and heart, is self-evident to every one who knows that a tube of three inches diameter will transmit more water than a tube of only one inch. And the same may be said in regard to the lungs, liver, kidneys, and every other part. If a liver, suppose of four square inches, can secrete four ounces of bile, it is perfectly manifest, that one of eight square inches will be able, all other things being equal, to secrete a quantity greater in proportion to its greater size. If this law did not hold true, What would be the advantage of large and capacious, over small and confined lungs? There could be none.

Speaking, generally, there are two classes of nerves distributed over the body, those of motion and those of sensation or feeling. In motion, the muscle is the essential or chief apparatus, and the nerve is required only to communicate to it the impulse of the will; but in sensation the reverse is the case,—the nerve itself is the chief instrument, and the part on which it is ramified is merely a medium for putting it in relation with the specific qualities which it is destined to recognise.

To show the effect of size in regard to these nerves, the following cases may be mentioned, and they are stated on the authority of Desmoulins, a celebrated French physiologist, when no other authority is given. The horse and ox have much greater muscular power, and much less intensity of sensation in their limbs than man; and, in conformity with the principle now under discussion, the nerves of motion going to the four limbs in the horse and ox are at least one-third more numerous than the nerves of sensation going to the same parts; whereas in man the nerves of motion going to the legs and arms are a fifth or a sixth part less than the nerves of sensation distributed on the same parts. In like manner, in birds and reptiles which have scaly skins and limited touch, but vigorous powers of motion, the nerves of sensation are few and small, and the nerves of motion numerous and large. Farther, wherever nature has given a higher degree of sensation or touch to any particular part than to the other parts of an animal, there the nerve of sensation is invariably increased; for example, the single nerve of feeling ramified on the tactile extremity of the proboscis of the elephant exceeds in size the united volume of all the muscular nerves of that organ. Some species of monkeys possess great sensibility in the tail, and some species of bats possess great sensibility in their wings, and in these parts the nerves of sensation are increased in size in proportion to the increased function. Birds require to rise in the air, which is a medium much lighter than their own bodies. To have enlarged the size of their muscles would have added to their weight, and increased their difficulty in rising. Nature, to avoid this disadvantage, has bestowed on them large nerves of motion which infuse a very powerful stimulus into the muscles, and increase their power of motion. Fishes live in water which is almost in equilibrium with their bodies. To them Nature has given large muscles, in order to increase their locomotive powers, and in them the nerves of motion are less. In these instances, nature curiously adds to the power of motion, by increasing the size of that part of the locomotive apparatus which may be enlarged most conveniently for the animal; but either the muscle or the nerve must be enlarged, otherwise there is no increase of power.

In regard to the external senses, it is proper to observe that every external sense is composed, first, Of an instrument or medium on which the impression is made; the eye for example; and, secondly, A nerve to conduct that impression to the mind or brain. The same law of size holds as to them; a large eye will collect more rays of light; a large ear more vibrations of sound; and large nostrils more odorous particles than small ones. This is so obvious, that it scarcely requires proof; yet, as Mr. Jeffrey has ridiculed the idea, I may mention that Monro, Blumenbach, Soemmering, Cuvier, Magendie, Georget, and a whole host of physiologists, support it. Blumenbach, when treating of smell, says, "While animals of the most acute smell have the nasal organs most extensively evolved, precisely the same holds in regard to some barbarous nations. For instance, in the head of a North American Indian (represented in one of his plates), the internal nostrils are of an extraordinary size," &c. And again, "The nearest to this in point of magnitude, are the internal nostrils of the Ethiopians, from among whom I have seen heads very different from each other, but each possessing a nasal organ much larger than that described by Soemmering. These anatomical observations accord with the accounts given by the most respectable travellers, concerning the wonderful acuteness of smell possessed by these savages."

In like manner, Dr. Monro *primus*, no mean authority, in treating, in his Comparative Anatomy, of the large organ of smell in the dog, says, "The sensibility (of smell) seems to be increased in proportion to the surface; and this will also be found to take place in all the other senses." The same author states, "that the external ear in different quadrupeds is differently framed, but always calculated to the creature's manner of life; thus hares and such other animals as are daily exposed to insults from beasts of prey, have large ears directed backwards, their eyes warning them of danger before."

These observations apply to the external portion of the organs of sense. The inner parts or nerves are likewise subject to the same law of size. Georget, a late physiological writer, in treating of the nerves, says, "The volume of these organs bears a uniform relation, in all the different animals, to the extent and force of the sensations and movements over which they preside. Thus, the nerve of smell in the dog is larger than the five nerves of the external senses in man." The nerve of smell is small in man and in the monkey tribe; scarcely, if at all, perceptible in the dolphin; large in the dog and the horse, and altogether enormous in the whale and the skate, in which it actually exceeds in diameter the spinal marrow itself. In the mole it is of extraordinary size, while the optic nerve is very small. In the eagle the reverse is observed, the optic nerve being very large, and the olfactory small. Most of the quadrupeds excel man in the acuteness of their hearing, and accordingly it is a fact that the auditory nerve in the sheep, the cow, the horse, &c., greatly exceeds the size of the same nerve in man. In some birds of prey, which are known to possess great sensibility of taste, the palate is found to be very copiously supplied with nervous filaments.

But the organ of sight affords a most interesting example of the influence of size. The office of the eye-ball is to collect the rays of light. A large eye, therefore, will take in more rays of light, or, in other words, command a greater sphere of vision, than a small one. But to give intensity or power to vision, the optic nerve is also necessary. Now, the ox placed upon the surface of the earth is of a heavy structure and ill fitted for motion, but he has a large eye-ball which enables him to take in a large field of vision without turning; but as he does not require very keen vision to see his provender on which he almost treads, the optic nerve is not large in proportion to the eyeball. The eagle, on the other hand, by ascending to a great height in the air, enjoys a wide field of vision from its mere physical position. It looks down from a point over an extensive surface. It has no need, therefore, of a large eyeball to increase artificially its field of vision; and, accordingly, the ball of its eye is comparatively small; But it requires, from that height, to discern its prey upon the surface of the earth, and not only is the distance great, but its prey often resembles in color the ground on which it rests. Great intensity of vision, therefore, is necessary to its existence. Accordingly, in it the optic nerve is increased to an enormous extent. Instead of forming a single membrane lining only the inner surface of the posterior chamber of the eye, as in man and animals of ordinary vision, and consequently only equalling in extent the sphere of the eye to which it belongs, the retina or nerve of vision in these quick-sighted birds of prey is found to be composed of a great number of folds, each hanging loose into the eye, and augmenting, in an extraordinary degree, not only the extent of nervous surface, but the mass of nervous matter, and giving rise to that intensity of vision which distinguishes the eagle, falcon, hawk, and similar animals. In the case of all the senses, then, the law holds, that power of function is in proportion to size of the organ, other circumstances being equal.

Let us now attend to the brain. Were I to affirm that difference of size in the brain would produce no effect on the vigor of its functions,—or that a small brain in perfect health, and of a sound constitution, is equal in functional power and efficiency to a large one in similar condition, Would the reader, after the evidence which has been laid before him of the influence of size in increasing the power of function in all other parts of the body, be disposed to credit the assertion? He would have the utmost difficulty in believing it, and would say that if such were the fact, the brain must form an exception to a law which appears general over organized nature; and yet the phrenologists have been assailed with every species of vituperation, for maintaining that the brain does not form an exception to this general law, but that in it also vigor of function is in proportion to size, other conditions being equal. I shall proceed to show some evidence in proof of this fact; but the reader is requested to observe that I am here expounding only general principles in an introductory discourse. The conditions and modifications under which these principles fall to be applied in practice, will be stated in a subsequent chapter.

First, The brain of a child is small, and its mental vigor weak, compared with the brain and mental vigor of an adult.* Secondly, Small size in the brain is an invariable cause of idiocy. Phrenologists have in vain called upon their opponents to produce a single instance of the mind being manifested vigorously by a very small brain. Deficiency of size, however, in the brain is not the only cause of idiocy. A brain may be large and diseased, and mental imbecility arise from the disease; but, although disease be absent, if the size be very deficient, idiocy will be invariable. Thirdly, Men who have been remarkable, not for mere cleverness, but for great force of character, such as Napoleon Bonaparte, have had large heads. Fourthly, It is an ascertained fact, that nations in whom the brain is large, possess so great a mental superiority over those in whom that organ is small, that they conquer and oppress them at pleasure. The Hindoo brain, for example, is considerably smaller than the European, and it is well known that a few thousands of Europeans have subdued and keep in subjection millions of Hindoos. The Native American brain is smaller also than the European, and the same result has been exemplified in that country. Lastly, The influence of size is now admitted by the most eminent physiologists. Magendie says, "the volume of the brain is generally in direct proportion to the capacity of the mind. We ought not to suppose, however, that every man having a large head is necessarily a person of superior intelligence, for there are many cases of an augmentation of the volume of the head beside the size of the brain, but it is rarely found that a man distinguished by his mental faculties has not a large head. The only way of estimating the volume of the brain, in a living person, is to measure the dimensions of the skull; every other means, even that proposed by Camper, is uncertain."—(Compendium of Physiology, p. 104. edition 1826). The following passage which occurs in the 94th Number of the Edinburgh Review, also implies not only that different parts of the nervous system, including the brain, have different functions, but that an increase of volume in the brain is marked by some addition to, or *amplification* of, the powers of the animal. "It is in the nervous system alone that we can trace a gradual progress in the provision for the subordination of one (animal) to another, and of all to man; and are enabled to associate every faculty which gives superiority with some addition to the nervous mass, even from the smallest indications of sensation and will, up to the highest degree of sensibility, judgment, and expression. The brain is observed progressively to be improved in its structure, and, with reference to the spinal marrow and nerves, augmented in volume more and more, until we reach the human brain, each addition being marked by some addition to, or amplification of, the powers of the animal,—until in man we behold it possessing some parts of which animals are destitute, and wanting none which theirs possess." There is here, then, pretty strong evidence and authority for the assertion, that the brain does not form an exception to the general law of organized nature, that other conditions being equal, size of organ is a measure of power of function.

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* It is certified by practical hatters, that the lower classes of the community, who are distinguished for muscular vigor much more than mental capacity, require a smaller size of hat than those classes whose occupations are chiefly mental, and in whom vigor of mind surpasses that of body. But the Phrenologist does not compare mental power in general with size of brain in general; and, besides, the hat does not indicate the size of the whole head. The reader will find details on this point in the 4th volume of the Phrenological Journal.

The circumstances which modify the effects of size fall next to be considered. These are constitution and health.

The question naturally presents itself, Do we possess any index to constitutional qualities of brain? The temperaments indicate them to a certain extent. There are four temperaments, accompanied with different degrees of activity in the brain—the Lymphatic, the Sanguine, the Bilious, and the Nervous. The temperaments are supposed to depend upon the constitution of particular systems of the body; the brain and nerves being predominantly active from constitutional causes, produce the nervous temperament; the lungs, heart, and blood-vessels being constitutionally predominant, give rise to the sanguine; the muscular and fibrous systems, to the bilious; and the glands and assimilating organs, to the lymphatic.

The different temperaments are indicated by external signs, which are open to observation. The first, or Lymphatic, is distinguishable by a round form of the body, softness of the muscular system, repletion of the cellular tissue, fair hair, and a pale clear skin. It is accompanied by languid vital actions, with weakness, and slowness in the circulation. The brain, as part of the system, is also slow, languid, and feeble in its action, and the mental manifestations are proportionally weak.

The second, or sanguine constitution, is indicated by well defined forms, moderate plumpness of person, tolerable firmness of flesh, light hair, inclining to chestnut, blue eyes, and fair complexion, with ruddiness of countenance. It is marked by great activity of the blood-vessels, fondness for exercise, and an animated countenance. The brain partakes of the general state, and is active.

The Bilious temperament is recognised by black hair, dark skin, moderate fulness, and much firmness of flesh, with harshly expressed outline of the person. The functions partake of great energy of action, which extends to the brain, and the countenance, in consequence, shows strong, marked, and decided features.

The Nervous temperament is recognised by fine thin hair, thin skin, small thin muscles, quickness in muscular motion, paleness of countenance, and often delicate health. The whole nervous system, including the brain, is predominantly active, and the mental manifestations are proportionally vivacious.*

It it thus clearly admitted, that constitution or quality of brain has a great influence on the mental effects of size; but let us attend to the consequences. As a general rule, all the parts of the same brain have the same constitution, and if size be a measure of power, then in each head the large organs will be more powerful than the small ones. This enables us to judge of the strong and the weak points in each head. But if we compare two separate brains, then we must recollect that the size of the two may be equal; and, nevertheless, the one from possessing the finest texture, and most vigorous constitution, may be exceedingly active, while another, from being inferior in quality, may be naturally inert. The consequence will be, that the best constituted brain will manifest the mind with most vigor. That size is nevertheless the measure of power, may be proved by contrasting the manifestations of a small and of a large brain, possessing the same combination of organs, and equally well constituted; the power or energy will then be found greatest in the latter. This is what is meant by other natural conditions being equal. As the temperaments are distinguishable by the countenance, and the general make of the body, and as the brain partakes of the general constitution, we possess an index to its natural qualities. I repeat that these remarks apply only to the case of comparing one brain with another. The same brain has in general the same constitution, and on the principle that size is a measure of power, the largest organs in each individual will be naturally the most vigorous. If the temperament be lymphatic, all the organs will act slowly, but the largest will be most powerful and most active, on account of their superior size. If the temperament be active, all will be active, but the largest will still take the lead. It is on this account that a student of Phrenology in search of evidence, should not compare the same organ in different brains.

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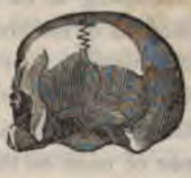
* The American reader will find a very elegant and instructive account of the temperaments, by that distinguished Phrenologist Dr. Charles Caldwell, of Lexington, in a volume published there in 1831, under the title of "Essays on Malaria and Temperament."

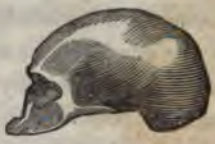
Further, the brain must possess a healthy constitution, and that degree of activity which is the usual accompaniment of health. Now, the brain, like other parts of the body, may be affected with certain diseases which do not diminish or increase its magnitude, and yet impair its functions. The Phrenologist ascertains the health by inquiry. In cases of disease, great size may be present, and very imperfect manifestations appear; or it may be attacked with other diseases, such as inflammation, or any of those particular affections whose nature is unknown, but to which the name of Mania is given in nosology, and which greatly exalt its action; and then very forcible manifestations may proceed from a brain comparatively small; but it is no less true, that when a larger brain is excited to the same degree by the same causes, the manifestations become increased in energy, in proportion to the increase of size. These cases, therefore, form no valid objection to Phrenology; for the phrenologist ascertains, by previous inquiry, that the brain is in a state of health. If it is not, he makes the necessary limitations in drawing his conclusions.

Let us turn our attention to the point of the argument at which we are now arrived. We have seen that the brain is the organ of the mind,—that it is not a single organ, but that the analogy of all the other organs, the successive developement of the faculties,—the phenomena of partial genius,—partial insanity,—monomania,—dreaming,—and partial injuries of the brain, indicate that it is a congeries of organs manifesting a plurality of faculties; we have seen also, that, in the case of the bones, muscles, nerves of motion, nerves of sensation, and nerves of the five senses, size has an influence on vigor of functions; and from the analogy of these organs, and also from direct facts and physiological authorities, we have come to the same conclusion regarding the brain, that vigor of function bears a relation, other circumstances being equal, to size in the organ. From these premises, it follows as a necessary conclusion, that, in the manifestation of the mental faculties, it will not be indifferent in what direction the brain is most or least developed; for example, if different parts of the brain possess different functions, and if the strength of function be in proportion to the size of the part, the vigor of the faculties connected with a brain in which the frontal region predominates in size, must necessarily be different from that which would proceed from a brain in which the predominance of size was in the posterior portion; and a difference would hold also in cases of preponderance in the superior or inferior portions.

Raphael.



New Hollander.



Here we have a representation of the skull of Raphael, and of the skull of a native of New Holland; both taken from casts in the collection of the Phrenological Society. The difference in the forehead is very conspicuous. If the part of the brain lying in that region have any function connected with intellect, and if size be a measure of power, the two beings should form a strong contrast of power and weakness in that department. And, accordingly, the case is so. Raphael died at thirty-three years of age, and has left an imperishable memory on account of his genius in art. Sir Walter Scott describes the other as follows:—"The natives of New Holland are, even at present, in the very lowest scale of humanity, and ignorant of every art which can add comfort or decency to human life. These unfortunate savages use no clothes, construct no cabins or huts, and are ignorant even of the manner of chasing animals, or catching fish, unless such of the latter as are left by the tide, or which are found on the rocks; they feed upon the most disgusting substances, snakes, worms, maggots, and whatever trash falls in their way. They know, indeed, how to kindle a fire; in that respect only they have stepped beyond the deepest ignorance to which man can be subjected; but they have not learned how to boil water; and when they see Europeans perform this ordinary operation, they have been known to run away in great terror."

We have now arrived, by a fair and legitimate induction, at strong presumptive proof in favor of the grand principles of Phrenology, viz. that the brain is the organ of the mind, that different parts of it are connected with different faculties, and that the size of the organ, other conditions being equal, exerts an influence on the power of manifestation. Here, then, the inquiry presents itself, What faculties and what parts of the brain are mutually connected? This is the grand question remaining to be solved, in order to render our knowledge of the functions of the brain and the organs of the mind precise and practically useful. Let us inquire what progress the metaphysician and anatomist have made in elucidating this point. It is of importance to take a view of the past efforts of philosophers in the science of mind on this subject, that we may be able correctly to appreciate both what remains to be accomplished, and how far Phrenology presents means capable of attaining it.

The mind has been studied, by one set of philosophers, with too little reference to the body; and the laws of thought have been expounded with as much neglect of organization as if we had already "shuffled off this mortal coil." From this erroneous practice of many distinguished authors, such as Locke, Hume, Reid, Stewart and Brown, a prejudice has arisen against the physiology of man, as if the mind were degraded by contemplating it in connexion with matter; but man is the work of the Creator of the world, and no part of his constitution can be unworthy of regard and admiration. The whole phenomena of life are the result of mind and body joined, each modifying each; and how can we explain a result, without attending to *all* the causes which combine towards its production?

Another set of philosophers, in avoiding Scylla, have thought it necessary to dash into Charybdis, and have taught, that the mind is nought but a combination of matter; and have endeavored to explain its functions by supposed mechanical motions in its parts; but, as we shall hereafter see, this course of proceeding is equally erroneous as the other.

In surveying the phenomena of mind, we are struck with the variety of faculties with which it appears to be endowed. Philosophers and the vulgar equally admit it to be possessed of different powers. Thus it is by one faculty that it reasons; by another that it imagines, and, by a third, that it discriminates between right and wrong.

If, however, we inquire what progress has hitherto been made by metaphysicians in ascertaining the primitive mental powers, and rendering the philosophy of man interesting and practically useful to persons of ordinary understanding, we shall find a lamentable deficiency indeed. From the days of Aristotle to the present time, the most powerful intellects have been directed, with the most persevering industry, to this department of science, — and system after system has flourished, fallen, and been forgotten, in rapid and melancholy succession. To confine our attention to modern times, Dr. Reid overturned the philosophy of Locke and Hume; Mr. Stewart, while he illustrated Reid, yet differed from him in many important particulars; and, recently, Dr. Thomas Brown has attacked, with powerful eloquence and philosophical profundity, the fabric of Stewart, and it already totters to its fall. The very existence of even the most common and familiar faculties of the mind is still in debate among these philosophers. Mr. Stewart maintains Attention to be a faculty, which these other philosophers deny. They, again, state Imagination to be a primitive power of the mind, while Mr. Stewart informs us, that "what we call the power of Imagination, is *not the gift of nature*, but the result of acquired habits, aided by favorable circumstances." (*Elements*, Chap. 7. § 1.) Common observation informs us, that a taste for music, and a genius for poetry and painting, are gifts of nature, bestowed only on a few; but Mr. Stewart, by dint of his philosophy, has discovered that these powers, and also a genius for mathematics, "are gradually formed by particular habits of study, or of business." (*Outlines*, p. 16.) On the other hand, he treats of Perception, Conception, and Memory, as original powers; while Dr. Thomas Brown denies them to be entitled to that appellation. Reid, Stewart, and Brown, admit the existence of moral emotions; but Hobbes, Mandeville, Dr. Paley, and many others, resolve the sentiment of Right and Wrong into a regard to our own good, into perceptions of utility, obedience to the laws, or to the Divine command. Thus, after the lapse and labor of more than two thousand years, philosophers are not yet agreed concerning the existence of many of the most important principles of action, and intellectual powers of man. While the philosophy of mind shall remain in this uncertain condition, it will be impossible to give to morals and natural religion a scientific foundation; and until these shall assume the stableness and precision of sciences, education, political economy and legislation, must continue empirical in their principles and application. If, therefore, Phrenology could introduce into the philosophy of mind even a portion of the certainty and precision which attend physical investigations, it would confer no small benefit on this interesting department of science; and that it is fully competent to do so, shall be shown after we have attended to a few preliminary points requiring consideration.

In the next place, supposing the number and nature of the primitive faculties to be ascertained, it is to be remarked, that, in actual life, they are successively developed. The infant feels fear, love, attachment, before it is alive to the sublime or the beautiful; and it observes occurrences long before it reasons. A correct theory of mind ought to unfold principles to which these facts also may be referred.

Farther, even after the full maturity of age is attained, how *different the degrees* in which we are endowed with the various mental powers. Admitting each individual to possess all the faculties, the assemblage of which constitutes the human mind, in what a variety of degrees of relative strength do they appear in different persons? In one, the love of glory is the feeling which surpasses all; another is deaf to the voice of censure, and callous to the accents of applause. The soul of one melts with softest pity at a tale of wo; while the eye of another never shed a sympathetic tear. One individual spends his life in an ardent chase of wealth, which he stops not to enjoy; another scatters in wasteful prodigality the substance of his sires, and perishes for want from a mere incapacity to retain. One vast intellect, like Newton's, fathoms the profundities of science; while another feeble mind scarcely gropes its way through the daily occurrences of life. The towering imagination of a Shakspeare, or a Milton, soars beyond the boundaries of sublunary space; while the sterile fancy of another sees no glory in the heavens, and no loveliness on earth.

A system of mental philosophy, therefore, pretending to the truth of nature, ought not only to unfold the simple elements of thought and of feeling, but to enable us to discover in what *proportions* they are combined in different individuals. In chemical science, one combination of elementary ingredients produces a medicine of sovereign virtue in removing pain; another combination of the same materials, but differing in their relative proportions, brings forth a mortal poison. In human nature, also, one combination of faculties may produce the midnight murderer and thief; and another, a Franklin, a Howard, or a Fry, glowing with charity to man.

If, however, we inquire at the philosophers on the mind, for rules by which to discriminate the effects upon the character and conduct of individuals, produced by different combinations of the mental powers, what information do we receive? Instead of light upon this interesting subject, we find in their works only disputes, whether such differences exist in nature, or are the result of education and other adventitious circumstances; many maintaining the one opinion, while some few advocate the other. This department of the philosophy of man, in short, is a perfect waste. Mr. Stewart is aware equally of its importance and forlorn condition. The varieties of intellectual character among men, says he, present another very interesting object of study, which, "considering its practical utility, has not yet excited, so much as might have been expected, the curiosity of our countrymen." (*Dissert.* Part ii. p. 198). The reason appears sufficiently obvious. The common modes of studying man afforded no clew to the discovery desired.

In thus surveying the philosophy of man, as at present exhibited to us in the writings of philosophers, we perceive, *first*, That no account is given of the influence of the material organs on the manifestations of the mental powers; that the progress of the mind from youth to age, and the phenomena of sleep, dreaming, idiocy and insanity, are left unexplained or unaccounted for, by any principles admitted in their system : *Secondly*, That the existence and functions of some of the most important primitive faculties are still in dispute ; and, *thirdly*, That no light whatever has been thrown on the nature and effects of combinations of the primitive powers, in different degrees of relative proportion. It is with great truth, therefore, that Monsieur De Bonald, quoted by Mr. Stewart, observes, that "diversity of doctrine has increased from age to age, with the number of masters, and with the progress of knowledge ; and Europe, which at present possesses libraries filled with philosophical works, and which reckons up almost as many philosophers as writers ; poor in the midst of so much riches, and uncertain with the aid of all its guides, which road it should follow ; Europe, the centre and focus of all the lights of the world, has yet its *philosophy* only in expectation."

While philosophers have been thus unsuccessfully engaged in the study of mental science, human nature has been investigated by another set of observers,—Moralists, Poets and Divines. These have looked upon the page of life merely to observe the characters there exhibited, with the view of tracing them anew in their compositions : and certainly they have executed their design with great felicity and truth. In the pages of Shakspeare, Addison, Johnson, Tillotson and Blair, we have the lineaments of mind traced with a perfect tact, and exhibited with matchless beauty and effect : But these authors had no systematic object in view, and did not aim at founding their observations on principles which might render them subservient to the practical purposes of life. Hence, although in their compositions we find ample and admirable materials for the elucidation of a true system of the philosophy of man, yet, without other aids than they supply, we cannot arrive at fundamental principles sufficient to guide us in our intercourse with the world. The charge against their representations of human nature is, not that they are incorrect, but that they are too general to be useful. They draw striking pictures of good men and of bad men, but do not enable us to discover, prior to experience, whether any particular individual with whom we may wish to connect our fortunes, belongs to the one class or the other, a matter of the first importance, because, in the course of gaining experience, we encounter the risk of suffering the greatest calamities. In short, Poets and Novelists describe men as they do the weather; in their pages they make the storm to rage with terrific energy, or the sun to shine with the softest radiance, but do not enable us to discover whether, to-morrow, the elements will war, or the zephyrs play; and without this power, we cannot put to sea with the certainty of favoring gales, nor stay in port without the risk of losing winds that would have wafted us to the wished-for shore. Phrenology, therefore, if a true system of human nature, ought not only to furnish to the popular reader the key of philosophy, to unlock the stores of intellectual wealth contained in the volumes of our most gifted authors, but also to render their representations of human character practically useful, by enabling him to discover the natural qualities of living individuals prior to experience of their conduct, and thus to appreciate their tendencies before becoming the victim of their incapacity or passions.

The causes of the failure of the metaphysician are easily recognised. He studied the mind chiefly by reflecting on his own consciousness; he turned his attention inwards, observed the phenomena of his own faculties, and recorded these as metaphysical science. But the mind is not conscious of organs at all; we are not informed by feeling of the existence of muscles, of nerves of motion, nerves of taste, nerves of smell, of an auditory apparatus, of optic nerves, or of any mental organs whatever. All that consciousness reveals is, that the mind inhabits the head; but it does not inform us what material substances the head contains; and hence it was impossible for the metaphysician to discover the organs of the mind by his method of philosophising, and no metaphysical philosopher pretends to have discovered them. The imperfection of this mode of investigation accounts for the contradictory results obtained by different metaphysicians. Suppose an individual possessed of a brain like a New Hollander, to turn philosopher; he would never, by reflecting on his own consciousness, find an instinctive faculty for art; and, therefore, he would exclude it from his system. Another philosopher, constituted like Raphael, on the other hand, would feel it strongly, and give it a prominent place.

When we turn our attention to the works of Physiologists, we discover the most ceaseless, but fruitless, endeavors to ascertain and determine the parts of the body, with which the several mental powers are most closely connected. Some of them have dissected the brain, in the hope of discovering in its texture an indication of the functions which it performs in relation to the mind; but success has not hitherto crowned their efforts. When we examine, with the most scrupulous minuteness, the form, color, and texture of the brain, no sentiment can be perceived slumbering in its fibres, nor half-formed ideas starting from its folds. It appears to the eye only as a mass of curiously convoluted matter; and the understanding declares its incapacity to penetrate the purposes of its parts.

In short, we cannot, by merely dissecting any organ of the body, discover its functions. For example, anatomists, for many centuries, dissected the nerves of motion and feeling, and saw nothing in their structure that indicated the difference of their functions; and, at this moment, if the nerves of taste and of hearing were presented together on the table, we might look at them for ages without discovering any traces of their functions from their structure alone. Simple dissection of the brain, therefore, could not lead to the discovery of the functions of its different parts.

The obstacles which have hitherto opposed the attainment of this information have been many.

Imagination has been called in to afford information which philosophy withheld, and theories have been invented to supply the place of knowledge founded on fact and legitimate induction. "The greater number of physiologists, physicians and philosophers," says Dr. Spurzheim, "derive the moral sentiments from various viscera, or from the nervous plexus and ganglia of the great sympathetic nerve, that is, from the nerves of the abdomen and thorax; but comparative anatomy and physiology entirely contradict this opinion. There are animals endowed with faculties attributed to certain bowels or viscera, which do not possess these viscera. Insects, for instance, become angry, and have neither liver nor bile. Oxen, horses, hogs, &c. have many viscera in structure analogous to those of man, and yet they want many faculties which are attributed to these viscera, and with which man is endowed." The heart is supposed to be the seat of the tender affections; but the heart of the tiger and of the lamb are alike in structure, and the one ought to be the organ of cruelty, and the other of meekness, if this supposition were true. (*New Phys. Syst.* p. 133). Other physiologists have compared the size of the brain of man with that of the lower animals; contrasting at the same time their mental powers; and have been led to the conclusion that it is the organ of the mind, and that its superior developement in man indicates his mental superiority over the brutes; but these philosophers have not succeeded in determining the functions of the *different parts* of this organ, and have not been able, in any important degree, to connect their discoveries with the philosophy of mind. Camper, in order to measure the extent of the brain, and, as he imagined, the corresponding energy of the intellectual faculties, drew a vertical line, touching the upper lip and the most prominent part of the forehead; and also a horizontal line, crossing the former, and touching the tips of the upper front teeth, and the external opening of the ear, or, at least, corresponding to these points in its direction; and he thought that man and animals have more understanding, the more the upper and inner angle formed by the two lines, or that including the upper jaw, nose, &c. is obtuse; and, on the contrary, that man and animals are more stupid, the more this facial angle is acute. But this manner of measuring the intellectual faculties is not more correct than those previously mentioned. The facial angle applies only to the anterior parts of the brain situated in the forehead, and is inapplicable to all the lateral and posterior parts; hence it could, even if there were no other objection, indicate only those faculties whose organs constitute the forehead. Besides, in many Negroes, the jaw-bones are extremely prominent, and the facial angle acute; while their foreheads are in fact largely developed, and their intellectual faculties powerful, although, by Camper's rule, they ought to be inferior to many stupid Europeans, whose foreheads are deficient, but whose jaws recede. Hence, the facial angle cannot serve as a means of measuring the moral sentiments and intellectual faculties. (*New Phys. Syst.* p. 197, 198, 199.)

"Some physiologists, as Sœmmering and Cuvier, have compared the size of the brain in general with that of the face; and, according to them, animals are more stupid as the face is larger in proportion to the brain." But that this rule is not infallible, is easily proved, because Leo, Montaigne, Leibnitz, Haller, and Mirabeau, had large faces and very considerable brains. Bossuet, Voltaire, and Kant, had, on the contrary, small faces and also large brains. (*New Phys. Syst.* p. 200.)

The cerebral parts have likewise been compared with each other, in order to ascertain their functions, as, the brain with the cerebellum, the brain with the medulla oblongata, with the nerves, &c., but these modes also have led to no satisfactory results. The elder writers, such as Aristotle and his followers, who assigned different faculties to different parts of the brain, proceeded on fancy, or on notions of supposed suitableness of the place in the head to the nature of the power; and their views have been entirely abandoned both by physiologists and metaphysicians. In short, it is well known, that no theory of the functions of the brain is yet admitted and taught as certain science, such as the doctrine of the circulation of the blood, and the functions of the muscles, nerves, and bones.

Dr. Roget, an opponent of Phrenology, freely confesses that "the brain is still as incomprehensible in its functions, as it is subtle and complex in its anatomy." (*Cranios* Sup. to Enc. Brit.); and the writer in the 94th Number of the Edinburgh Review, says, —"Even within our own time, although many great anatomists had devoted themselves almost exclusively to describing the brain, this organ used to be demonstrated by the greater number of teachers, in a manner which, however invariable, was assuredly not particularly useful. It was so mechanically cut down upon, indeed, as to constitute a sort of exhibition connected with nothing. The teacher and the pupil were equally dissatisfied with the performance, and the former probably the most; the latter soon gave up the painful attempt to draw any kind of deductions from what he witnessed, and disposed of the difficulty as he best could, when he had to render an account of what he had seen. Up to this day, our memory is pained by the recollection of the barbarous names and regular sections of what was then the dullest part of anatomical study; which, although often repeated, left no trace but of its obscurity, or its absurdity. Here an oval space of a white color, and there a line of gray or curve of red, were displayed; here a cineritious, there a medullary mass; here a portion white without and gray within; there a portion white within and gray without; here a gland-pituitary; there a gland like grains of sand; here a ventricle; there a cul-de-sac; with endless fibres, and lines, and globules, and simple marks, with appellations no less fanciful than devoid of meaning."

"The anatomist dissected, and toiled on in this unpromising territory, and entangled himself more in proportion to his unwillingness to be defeated; and he succeeded, no doubt, in making out a clear display of all these complicated parts, which few, however, could remember, and fewer still could comprehend. Then came the physiologist in still greater perplexity, and drew his conclusions, and assigned offices to the multiplied portions and ramifications of nervous substance, by arbitrary conjecture for the most part, and often with manifest inconsistency. Although the brain was generally allowed to be the organ of the intellectual faculties, it was supposed to give out, from particular portions of the mass, but quite indifferently, nerves of sensation, general and specific, nerves of motion, and nerves of volition; the single, double, or multiplied origin of nerves, which had not escaped notice, not being supposed to be connected with these separate offices."

"Such, so vague, so obscure, so inexact, so unsatisfactory, was the kind of knowledge communicated to the student, until a very recent period; and the impression left by it was that of confused and unintelligible profusion in the distribution of nerves, of intricacy without meaning, of an expenditure of resources without a parellel in the other works of nature." Pages 447, 448.

Unless, then, Dr. Gall could boast of some other method of investigation than those of the ordinary physiologist and metaphysician, he could offer no legitimate pretensions to the solution of the question, What parts of the brain, and what mental faculties, are connected? but he, by great good fortune, was led to adopt a different and superior mode of inquiry; and this leads me to state shortly a few particulars of the history of the science which is now to be expounded.

Dr. Gall, a physician of Vienna, afterwards resident in Paris,* was the founder of the system. From an early age he was given to observation, and was struck with the fact, that each of his brothers and sisters, companions in play, and schoolfellows, was distinguished from other individuals by some peculiarity of talent or disposition. Some of his schoolmates were characterized by the beauty of their penmanship, some by their success in arithmetic, and others by their talent for acquiring a knowledge of natural history, or languages. The compositions of one were remarkable for elegance; the style of another was stiff and dry; while a third connected his reasonings in the closest manner, and clothed his argument in the most forcible language. Their dispositions were equally different; and this diversity appeared also to determine the direction of their partialities and aversions. Not a few of them manifested a capacity for employments which they were not taught; they cut figures in wood, or delineated them on paper; some devoted their leisure to painting, or the culture of a garden; while their comrades abandoned themselves to noisy games, or traversed the woods to gather flowers, seek for bird-nests, or catch butterflies. In this manner, each individual presented a character peculiar to himself, and Dr. Gall never observed, that the individual, who in one year had displayed selfish or knavish dispositions, became in the next a good and faithful friend.

The scholars with whom Dr. Gall had the greatest difficulty in competing, were those who learned by heart with great facility; and such individuals frequently gained from him by their repetitions the places which he had obtained by the merit of his original compositions.

Some years afterwards, having changed his place of residence, he still met individuals endowed with an equally great talent of learning to repeat. He then observed, that his schoolfellows, so gifted, possessed prominent eyes, and recollected, that his rivals in the first school had been distinguished by the same peculiarity. When he entered the University he directed his attention, from the first, to the students whose eyes were of this description, and found that they all excelled in getting rapidly by heart, and giving correct recitations, although many of them were by no means distinguished in point of general talent. This observation was recognised also by the other students in the classes; and although the connexion betwixt talent and external sign was not at this time established upon such complete evidence as is requisite for a philosophical conclusion, Dr. Gall could not believe that the coincidence of the two circumstances was entirely accidental. From this period, therefore, he suspected that they stood in an important relation to each other. After much reflection, he conceived, that if memory for words was indicated by an external sign, the same might be the case with the other intellectual powers; and, thereafter, all individuals distinguished by any remarkable faculty became the objects of his attention. By degrees, he conceived himself to have found external characteristics, which indicated a decided disposition for Painting, Music, and the Mechanical Arts. He became acquainted also with some individuals remarkable for the determination of their character, and he observed a particular part of their heads to be very largely developed. This fact first suggested to him the idea of looking to the head for signs of the Moral Sentiments. But in making these observations, he never conceived, for a moment, that the skull was the cause of the different talents, as has been erroneously represented; for, from the first, he referred the influence, whatever it was, to the Brain.

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*Born at Tiefenbrun, in Suabia on 9th March, 1757, died at Paris, 22d August, 1828.

In following out, by observations, the principle which accident had thus suggested, he, for some time, encountered difficulties of the greatest magnitude. Hitherto he had been altogether ignorant of the opinions of Physiologists touching the brain, and of Metaphysicians respecting the mental faculties. He had simply observed nature. When, however, he began to enlarge his knowledge of books, he found the most extraordinary conflict of opinions every-where prevailing, and this, for the moment, made him hesitate about the correctness of his own observations. He found that the moral sentiments had, by an almost general consent, been consigned to the thoracic and abdominal viscera: and that while Pythagoras, Plato, Galen, Haller, and some other Physiologists, placed the sentient soul or intellectual faculties in the brain, Aristotle placed it in the heart, Van Helmont in the stomach, Des Cartes and his followers in the pineal gland, and Drelincourt and others in the cerebellum.

He observed also, that a great number of Philosophers and Physiologists asserted, that all men are born with equal mental faculties; and that the differences observable among them are owing either to education, or to the accidental circumstances in which they are placed. If differences were accidental, he inferred, that there could be no natural signs of predominating faculties; and consequently that the project of learning, by observation, to distinguish the functions of the different portions of the brain, must be hopeless. This difficulty he combated by the reflection, that his brothers, sisters, and schoolfellows, had all received very nearly the same education, but that he had still observed each of them unfolding a distinct character, over which circumstances appeared to exert only a limited control. He observed also, that not unfrequently those whose education had been conducted with the greatest care, and on whom the labors of teachers had been most assiduously bestowed, remained far behind their companions in attainments. "Often," says Dr. Gall, "we were accused of want of will, or deficiency in zeal; but many of us could not, even with the most ardent desire, followed out by the most obstinate efforts, attain, in some pursuits, even to mediocrity; while in some other points, some of us surpassed our schoolfellows without an effort, and almost, it might be said, without perceiving it ourselves. But, in point of fact, our masters did not appear to attach much faith to the system which taught equality of mental faculties; for they thought themselves entitled to exact more from one scholar, and less from another. They spoke frequently of natural gifts, or of the gifts of God, and consoled their pupils in the words of the Gospel, by assuring them that each would be required to render an account, only in proportion to the gifts which he had received."*

Being convinced by these facts, that there is a natural and constitutional diversity of talents and dispositions, he encountered in books still another obstacle to his success in determining the external signs of the mental powers. He found that, instead of faculties for languages, drawing, distinguishing places, music, and mechanical arts, corresponding to the different talents which he had observed in his schoolfellows, the metaphysicians spoke only of general powers, such as perception, conception, memory, imagination, and judgment; and when he endeavored to discover external signs in the head, corresponding to these general faculties, or to determine the correctness of the physiological doctrines taught by the authors already mentioned, regarding the seat of the mind, he found perplexities without end, and difficulties insurmountable.

Dr. Gall, therefore, abandoning every theory and preconceived opinion, gave himself up entirely to the observation of nature. Being a friend to Dr. Nord, Physician to a Lunatic Asylum in Vienna, he had opportunities, of which he availed himself, of making observations on the insane. He visited prisons, and resorted to schools; he was introduced to the courts of princes, to colleges, and the seats of justice; and wherever he heard of an individual distinguished in any particular way, either by remarkable endowment or deficiency, he observed and studied the developement of his head. In this manner, by an almost imperceptible induction, he at last conceived himself warranted in believing, that particular mental powers are indicated by particular configurations of the head.

Hitherto he had resorted only to physiognomical indications, as a means of discovering the functions of the brain. On reflection, however, he was convinced that Physiology is imperfect when separated from Anatomy. Having observed a woman of fifty-four years of age, who had been afflicted with hydrocephalus from her youth, and who, with a body a little shrunk, possessed a mind as active and intelligent as that of other individuals of her class, Dr. Gall declared his conviction, that the structure of the brain must be different from what was generally conceived,—a remark which Tulpius also had made, on observing a hydrocephalic patient who manifested the mental faculties. He therefore felt the necessity of making anatomical researches into the structure of the brain.

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* Preface by Dr. Gall to the "Anatomie, &c. du Cerveau," from which other facts in this work are taken.

In every instance, when an individual, whose head he had observed while alive, happened to die, he used every means to be permitted to examine the brain, and frequently did so; and found, as a general fact, that, on removal of the skull, the brain, covered by the dura mater, presented a form corresponding to that which the skull had exhibited in life.

The successive steps by which Dr. Gall proceeded in his discoveries, are particularly deserving of attention. He did not, as many have imagined, first dissect the brain, and pretend, by that means, to discover the seats of the mental powers; neither did he, as others have conceived, first map out the skull into various compartments, and assign a faculty to each, according as his imagination led him to conceive the place appropriate to the power. On the contrary, he first observed a concomitance between particular talents and dispositions, and particular forms of the head; he next ascertained, by removal of the skull, that the figure and size of the brain are indicated by these external forms; and it was only after these facts had been determined, that the brain was minutely dissected, and light thrown upon its structure.

At Vienna, in 1796, Dr. Gall, for the first time, delivered lectures on his system.

In 1800, Dr. J. G. Spurzheim * began the study of Phrenology under him, having in that year assisted, for the first time, at one of his lectures. In 1804, he was associated with him in his labors; and, since that period, has not only added many valuable discov-

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* Born at Longuich, near Treves, on the Moselle, 31st December, 1776.

eries to those of Dr. Gall, in the anatomy and physiology of the brain, but formed the truths brought to light, by their joint observations, into a beautiful and interesting system of mental philosophy. In Britain we are indebted chiefly to his personal exertions and printed works for a knowledge of the science.

In the beginning of his inquiries, Dr. Gall did not, and could not, foresee the result to which they would lead, or the relation which each successive fact, as it was discovered, would bear to the whole truths which time and experience might bring into view. He perceived, for instance, that the intensity of the desire for property, bore a relation to the size of one part of the brain; he announced this fact by itself, and called the part the organ of Theft, because he had found it largest in thieves. When he had discovered that the propensity to destroy was in connexion with another part of the brain, he announced this fact also as an isolated truth, and named the part the organ of Murder, because he had found it largest in criminals condemned for that crime. In a similar way, when he had discovered the connexion between the sentiment of Benevolence and another portion of the cerebral mass, he called the part the organ of Benevolence; and so on in regard to the other organs. This mode of proceeding has nothing in common with the formation of an hypothesis; and, so far from a disposition to invent a theory being conspicuous, there appears, in the disjointed items of information which Dr. Gall at first presented to the public, a want of even an ordinary regard for systematic arrangement. His only object seems to have been to furnish a candid and uncolored statement of the facts in nature which he had observed; leaving their value to be ascertained by time and farther investigation.

As soon, however, as observation had brought to light the great body of the facts, and the functions of the faculties had been contemplated with a philosophical eye, a system of mental philosophy appeared to emanate almost spontaneously from the previous chaos.

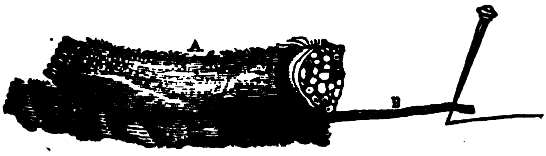
When the process of discovery had proceeded a certain length, the facts were found to be connected by relations, which it was impossible sooner to perceive. Hence, at first, the doctrines appeared as a mere rude and undigested mass, of rather unseemly mate rials; the public mirth was, not unnaturally, excited, at the display of organs of Theft, Murder, and Cunning, as they were then named; and a degree of obloquy was brought upon the science, from which it is only now recovering. At this stage the doctrines were merely a species of physiognomy, and the apparent results were neither very prominent nor inviting. When, however, the study had been pursued for years, and the torch of philosophy had been applied to the facts discovered by observation, its real nature, as the science of the human mind, and its high utility, became apparent; and its character and name changed as it advanced. The following observations of Mr. Locke are peculiarly applicable to its history and prospects. "Truth (says he) scarce ever yet carried it by vote any where, at its first appearance. New opinions are always suspected, and usually opposed without any other reason, than because they are not common. But truth, like gold, is not the less so, for being newly brought out of the mine. 'Tis trial and examination must give it price, and not any antique fashion; and, though it be not yet current by the public stamp, yet it may, for all that, be as old as nature, and is certainly not the less genuine."

Having now unfolded the principles and method of investigation of Phrenology, I solicit the attention of the reader to one question. We have heard much of Antiphrenologists; and I would ask, What does Antiphrenologist mean? Does it mean a person who, like Mr. Jeffrey, denies that the mind in feeling and reflecting uses organs at all? To such a one I reply, that he ought to call himself an antiphysiologist; because, as already mentioned, every physiological writer of eminence in Europe, maintains that the brain is the organ of the mind, and that injuries of it impair the mental functions. Or does Antiphrenologist mean one who admits the brain to be the organ of the mind, but contends that the whole of it is essential to every mental act? then I request of him to reconcile with his theory the phenomena of dreaming, partial genius, partial idiocy, partial insanity, partial cessation of mental functions arising from partial injuries of the brain, and the successive development of the mental powers in youth. If Antiphrenologist means a person who admits the mind to manifest a plurality of faculties by a plurality of organs, but denies that Phrenologists have ascertained any of them, I ask him, Whether he disputes the three grand propositions, first, That dissection alone does not reveal functions; second, That reflection on consciousness does not reveal organs; and, thirdly, That mental manifestations may be compared with developement of brain? If he denies these principles, then he is beyond the reach of reason; while, if he admits them, I would ask him to state what forms of brain, and what mental manifestations he found concomitant in his observations? because, until he shall make such a statement, his denial of the correctness of the observations of others is entitled to no consideration. But an Antiphrenologist, in any of these senses, has never yet appeared. The word, in its common signification, seems to indicate only an individual who is pleased to deny that Phrenologists are right, without knowing either their principles or facts, or having any pretensions to advance the cause of truth, by propounding sounder data or correcter observations of his own.

GENERAL VIEW OF THE FUNCTIONS OF THE SPINAL MARROW AND NERVES.

Before entering on the discussion of the Brain, it may be useful to give a brief account of Mr. Charles Bell's discoveries of the functions of the Nerves. Dr. Spurzheim, and many authors before him, very early published the conjecture, that there must be different nerves for sensibility and motion, because one of the powers is occasionally impaired, while the other remains entire. Mr. Bell has furnished demonstrative evidence of this being actually the fact. He has also given due prominence to the philosophical principle, so urgently insisted on by Phrenologists, That, in all departments of the animal economy, each organ performs only one function; and that wherever complex functions appear, complex organs may be safely predicated, even anterior to the possibility of demonstrating them. The present section is derived from Mr. Bell's Anatomy and Physiology of the Human Body, vol. ii., 7th edition, 1829; and, in as far as possible, I have adhered to his own expressions. My object is to introduce general readers to a knowledge of his discoveries, which form parts of an extensive System of Anatomy, or of Philosophical Transactions, or of professional publications, which they seldom peruse. I shall omit all details necessary only for medical students, as Mr. Bell's work is the proper source of instruction for them. Even the general reader will probably resort to Mr. Bell's pages, after being informed of their interesting contents; he will find them clear, instructive, and most ably supported by evidence. Any errors or inaccuracies in the following condensed abstract, are chargeable against myself; for although in general I have followed Mr. Bell's own expressions, the arrangement is greatly altered, and, occasionally, sentences of my own are introduced.

A nerve, says Mr. Bell, is a firm white cord, composed of nervous matter and cellular substance. The nervous matter exists in distinct threads, which are bound together by the cellular membrane. They may be likened to a bundle of hairs or threads, inclosed in a sheath composed of the finest membrane.



The figure represents a nerve greatly magnified, for the sake of illustration, and consisting of distinct filaments; A, the nerve, enveloped in its membranous sheath; B, one of the threads dissected out. The nerves in thickness vary from the diameter of a small thread to that of a whip-cord. They are dispersed through the body, and extend to every part which enjoys sensibility or motion, or which has a concatenated action with another part.

The matter of a nerve in health, and in the full exercise of its influence, is of an opaque white; it is soft and pulpy, betwixt fluid and solid, and drops from the probe. When putrid, it acquires a green color; when dried, it is transparent. Corrosive sublimate and muriate of soda harden it; alkalis dissolve it. Each fibril of a nerve is convoluted, and runs not in a straight line, but zig-zag, like a thread drawn from a worsted stocking, which has by its form acquired elasticity that it would not otherwise have possessed. By want of use, the matter of a nerve is either not secreted in due proportion, or it changes its appearance; for the nerve then acquires a degree of transparency.

There is no evidence that any fluid or spirit circulates in the nerves; nor is there any that the nervous fibrils are tubes.

Nerves are supplied with arteries and veins, and their dependence on the supply of blood is proved by the fact, that if a limb be deprived of blood, the nerves lose their powers, and sensibility is lost. If a nerve be partially compressed, so as to interrupt the free entrance of the blood into it, both the power over the muscles and the reception of sensation through it are interrupted; and when the blood is admitted again, painful tingling accompanies the change. It is not the compression of the tubes of a nerve, but the obstruction of its blood-vessels, which produces the loss of power consequent on tying it. The brain, the nerve of the eye, the ear, the nerves of sense and motion, are all affected by changes in the circulation; and each organ, according to its natural function, is *variously* influenced by the *same* cause—the rushing of blood into it, or the privation of its proper quantity.

A nerve consists of distinct filaments; but there is nothing perceptible in these filaments to distinguish them from each other. One filament serves for the purpose of sensation; another for muscular motion; a third for combining the muscles, when in the act of respiration. But the subserviency of any of all these filaments to its proper office, must be discovered by following it out, and observing its relations, and especially its origin in the brain and spinal marrow. In their substance there is nothing particular. They all seem equally to contain a soft pulpy matter, enveloped in cellular membrane, and so surrounded with a tube of this membrane as to present a continuous track of pulpy nervous matter, from the nearest extremity in the brain to the extremity which ends in a muscle or in the skin.

The key to the system will be found in the simple proposition, that each filament or track of nervous matter has its peculiar endowment, independently of the others which are bound up along with it; and that it continues to have the same endowment throughout its whole length. There is no interchange of powers betwixt the different filaments; but a minute filament of one kind may be found accompanying a filament of a different kind, each giving a particular power to the part in which it is ultimately distributed.

Some nerves give sensibility; but there are others, as perfectly and delicately constituted, which possess no sensibility whatever. Sensibility results from the particular part of the brain which is affected by the nerve. If the eye-ball is pressed, the outward integuments feel pain, but the retina gives no pain, only rings of light or fire appear before the eye. In the operation of couching the cataract, the needle must pierce the retina; the effect, however, is not pain, but to produce, as it were, a spark of fire; and so, an impression on the nerve of hearing, the papillæ of taste, or any organ of sense, does not produce pain. The sensation excited has its character determined by the part of the brain to which the nerve is related at its root. But there are nerves which have no relation to outward impression. There are nerves purely for governing the muscular frame, these being constituted for conveying the mandate of the will, do not stand related to an organ of sense in the brain; hence no sensibility and no pain will be produced by them. Each of these may be said to be a nerve of exquisite feeling in one sense, that is, it may be a cord which unites two organs in intimate sympathies, so as to cause them to act in unison; yet, being bruised or injured, it will give rise to no perception of any kind, because it does not stand related to a part of the brain, whose office it is to produce either the general impression of pain, or heat, or cold, or vision, or hearing: It is not the office of that part of the brain to which it is related to produce perception at all.

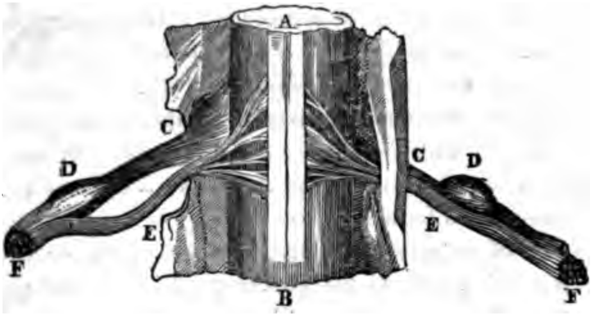
At the conflux of the nervous filaments, small reddish tumours appear, which are named GANGLIONS (See D in fig. p. 56). A ganglion resembles in form the circular swellings which appear on the stalk of a straw or of a cane; but ganglions do not rise at regular intervals on the nerves like these swellings. Ganglions are laid in a regular succession in the whole length of the body, and, in the vertebral animals, form a regular series down each side of the spinal marrow; the nerve of communication among them is the great sympathetic nerve. There are other ganglions seated in the head, neck, and cavities of the chest and belly, which are very irregular in their situation and form.*

The color of the ganglions differs from that of the nerves; it is redder, which is owing to the greater number of blood-vessels: They consist of the same matter with the brain.

Wherever we trace nerves of motion, we find that, before entering the muscles, they interchange branches, and form an intricate mass of nerves, which is termed a plexus. A plexus is intricate in proportion to the number of muscles to be supplied, and the variety of combinations into which they enter. The filaments of nerves which go to the skin, and have the simple function of sensation, regularly diverge to their destination, without forming a plexus. From the fin of a fish to the arm of a man, the plexus increases in complexity, in proportion to the variety or extent of motions to be performed in the extremity. It is by the interchange of filaments that combination among the muscles is formed.

Different columns of nervous matter combine to form the SPINAL MARROW, (A B, p. 56.). Each lateral portion of the spinal marrow consists of three tracks or columns; one for voluntary motion, one for sensation, and one for the act of respiration. So that the spinal marrow comprehends in all six rods, intimately bound together, but distinct in office; and the capital of this compound column is the *medulla oblongata*.

The anterior column of each lateral division of the spinal marrow is for motion; the posterior column is for sensation; and the middle one is for respiration. The two former extend up into the brain, and are dispersed or lost in it; for their functions stand related to the sensorium: but the last stops short in the medulla oblongata, being in function independent of reason, and capable of its office independently of the brain, or when separated from it.



A B the spinal marrow seen in front; the division into lateral portions appearing at the line A B. The nervous cord C arises from the posterior lateral division, and gives sensibility. The swelling D is its ganglion. The nervous cord E arises from the anterior lateral division, and gives motion. It has no ganglion. These two cords combine at F, and proceed under one sheath to their destinations.

Mr. Bell struck a rabbit behind the ear, so as to deprive it of sensibility by the concussion, and then exposed the spinal marrow. On irritating the posterior roots of the nerve, he could perceive no motion consequent on any part of the muscular frame; but on irritating the anterior roots of the nerve, at each touch of the forceps there was a corresponding motion of the muscles to which the nerve was distributed. These experiments satisfied him that the different roots and different columns from which those roots arose, were devoted to distinct offices, and that the notions drawn from the anatomy were correct.

Mr. Bell performed certain interesting experiments on the fifth pair of nerves, which originates from the brain. In his Plate I. he represents this nerve rising from two roots, one of them coming from the *crus cerebri*, corresponding to the anterior column of the spinal marrow; and the other from the *crus cerebelli*, corresponding to the posterior column of the spinal marrow. There is a ganglion on the latter branch, and none on the former; which circumstance also is in exact correspondence with the nerves rising from the spinal marrow. The two branches combine at a short distance from their origin, and are universally distributed to the head and face. Mr. Bell conceived that this nerve is the upper-most of those nerves which confer motion and bestow sensibility. To confirm this opinion, he cut across the posterior branch, or that which has a ganglion, on the face of an ass, and it was found that the sensibility of the parts to which it was distributed was entirely destroyed. Again, he exposed the anterior branch of the fifth pair at its root, in an ass, the moment the animal was killed; and on irritating the nerve, the muscles of the jaw acted, and the jaw was closed with a snap. On dividing the root of the nerve in a living animal, the jaw fell relaxed. Thus its functions were no longer matter of doubt: it was at once a muscular nerve and a nerve of sensibility. And thus the opinion was confirmed, that the fifth nerve was to the head, what the spinal nerves were to the other parts of the body.

The muscles have two nerves, which fact had not been noticed previously to Mr. Bell's investigations, because they are commonly bound up together; but whenever the nerves, as about the head, go in a separate course, we find that there is a sensitive nerve and a motor nerve distributed to the muscular fibre, and we have reason to conclude that those branches of the spinal nerves which go to the muscles, consist of a motor and a sensitive filament. The nerve of touch or feeling, ramified on the skin, is distinct from both.

It was formerly supposed that the office of a muscular nerve is only to carry out the mandate of the will, and to excite the muscle to action; but this betrays a very inaccurate knowledge of the action of the muscular system; for before the muscular system can be controlled under the influence of the will, there must be a consciousness or knowledge of the condition of the muscle.

When we admit that the various conditions of the muscle must be estimated or perceived, in order to be under the due control of the will, the natural question arises, Is that nerve which carries out the mandate of the will, capable of conveying, at the same moment, an impression retrograde to the course of that influence, which, obviously, is going from the brain towards the muscle? If we had no facts of anatomy to proceed upon, still reason would declare to us, that the same filament of a nerve could not convey a motion, of whatever nature that motion may be, whether vibration or motion of spirits, in opposite directions, at the same moment of time.

Mr. Bell has found, that, to the full operation of the muscular power, two distinct filaments of nerves are necessary, and that a circle is established between the sensorium and the muscle: that one filament or simple nerve carries the influence of the will towards the muscle, which nerve has no power to convey an impression backwards to the brain; and that another nerve connects the muscle with the brain, and, acting as a sentient nerve, conveys the impression of the condition of the muscle to the mind, but has no operation in a direction outward from the brain towards the muscle, and does not therefore excite the muscle, however irritated.

There are four nerves coming out of a track or column of the spinal marrow, from which neither the nerves of sensation, nor of common voluntary motion, take their departure. Experiment proves that these nerves excite motions dependent on the act of respiration.

Under the class of respiratory motions, we have to distinguish two kinds: first, the involuntary, or instinctive; secondly, those which accompany an act of volition. We are unconscious of that state of alternation of activity and rest which characterises the instinctive act of breathing in sleep; and this condition of activity of the respiratory organs, we know by experiment, is independent of the brain. But, on the other hand, we see that the act of respiration is sometimes an act of volition, intended to accomplish some other operation, as that of smelling or speaking. Mr. Bell apprehends that it is this compound operation of the organs of breathing which introduces a certain degree of complexity into the system of respiratory nerves. A concurrence of the nerves of distinct systems will be found necessary to actions which at first sight, appear to be very simple.

If we cut the division of the fifth nerve, which goes to the lips of an ass, we deprive the lips of sensibility; so that, when the animal presses the lips to the ground, and against the oats lying there, it does not feel them; and consequently there is no effort made to gather them. If, on the other hand, we cut the seventh nerve, where it goes to the lips, the animal feels the oats, but it can make no effort to gather them, the power of muscular motion being cut off by the division of the nerve. Thus we perceive that, in feeding, just as in gathering any thing with the hand, the feeling directs the effort; and two properties of the nervous system are necessary to a very simple action.

After the investigation of the regular system of nerves of sensation and voluntary motion, the question that had so long occupied Mr. Bell, viz. What is the explanation of the excessive intricacy of the nerves of the face, jaws, throat, and breast? became of easy solution. These nerves are agents of distinct powers, and they combine the muscles in subserviency to different functions.

As animals rise in the scale of being, new organs are bestowed upon them; and, as new organs and new functions are superadded to the original constitution of the frame, new nerves are given also, and new sensibilities, and new powers of activity.

Mr. Bell remarks, that we understand the use of all the intricate nerves of the body, with the exception of the sixth nerve, which stands connected with another system of nerves altogether, namely, the system hitherto called the Sympathetic, or sometimes the Ganglionic System of Nerves; and of this system we know so little, that it cannot be matter of surprise, if we reason ignorantly of the connexion of the sixth with it.

PRINCIPLES OF PHRENOLOGY.

In the Introduction, I have shown that the Brain is admitted by Physiologists in general, to be the organ of the Mind; but that two obstacles have impeded the discovery of the uses of its particular parts. *1st*, *Dissection* alone does not reveal the *functions* of any organ. No person, by dissecting the optic nerve, could predicate that its office is to minister to vision; or, by dissecting the tongue, could discover that it is the organ of taste. Anatomists, therefore, could not, by the mere practice of their art, discover the functions of the different portions of the brain. *2dly*, The mind is not directly conscious of acting by means of organs; and hence the material instruments, by means of which it performs its operations in this life, and communicates with the external world, cannot be discovered by reflection on consciousness.

The phrenologist compares developement of brain with manifestations of mental power, for the purpose of discovering the functions of the brain, and the organs of the mind. This course is adopted, in consequence of the accidental discovery made by Dr. Gall, that certain mental powers are vigorously manifested, when certain portions of the brain are large, and *vice versa*, as detailed in the Introduction. It is free from the objections attending the anatomical and metaphysical modes of research, and conformable to the principles of inductive philosophy.

No inquiry is instituted into the substance of the Mind, or into the question, Whether the mind fashions the organs, or the organs constitute the mind? If dissection of organs does not reveal their functions, and if reflection on consciousness does not disclose the nature of the mind's connexion with matter, no means remain of arriving at philosophical conclusions on these points; and speculative reasoning concerning them, although it may amuse the fancy, cannot instruct the judgment. Mr. Stewart justly observes, "that the metaphysical opinions which we may happen to have formed concerning the *nature* either of body or of mind, and the efficient causes by which their phenomena are produced, have no necessary connexion with our inquiries concerning the laws according to which the phenomena take place." "Whether, for example, the *cause* of gravitation be material or immaterial, is a point about which two Newtonians may differ, while they agree perfectly in their physical opinions. It is sufficient if both admit the general fact, that bodies tend to approach each other, with a force varying with their mutual distance, according to a certain law. In like manner, in the study of the human mind, the conclusions to which we are led by a careful examination of the phenomena it exhibits, have no necessary connexion with our opinions concerning its *nature* and *essence*."—*Elements*, vol. i. Introduction. The object of phrenology is to discover the Faculties of the Human Mind; the organs by means of which they are manifested; and the influence of the organs on the manifestations. It does not enable us to predict actions.

A mental organ is a material instrument, by means of which the Mind in this life manifests a particular power. Dr. Gall's discovery leads us to view the Brain as a congeries of such organs, and in the Introduction, reasons have been assigned for regarding this proposition as sufficiently probable, to justify an inquiry into the direct evidence by which it is supported. For the purpose of comparing mental faculties with *cerebral* developement, it is necessary to show, 1*st*, That the mental qualities of individuals can be discovered; and, 2*dly*, That the size of different parts of the brain can be ascertained during life.

1*st*, *Discrimination of mental Dispositions and Talents.*—In regard to the Feelings, men practised in the business of life have observed, that one individual is strongly addicted to covetousness, —another to cruelty,—another to benevolence,—another to pride, —another to vanity; and they are accustomed to regard these dispositions as natural, uniform, and permanent. They have never believed, that a man, by an effort of the will, can totally change his nature, or that the true character is so little manifested, that a person may be prone to benevolence to-day, who yesterday was addicted to avarice; that one who is now sinking in the lowest abasement of self-humiliation in his own eyes, may to-morrow become conceited, confident and proud; or that to-day an individual may be deaf to the voice of censure or of fame, who yesterday was tremblingly alive to every breath that was blown upon his character. Nay, they have even regarded these dispositions as independent of one another, and separable; for they have often found that the possession of one was not accompanied with the presence of the whole. Hence, in addressing any individual, they have been in the custom of modifying their conduct, according to their previous knowledge of his dispositions or genius, obtained by observing his actions. To the covetous man they address one motive; to the benevolent another; to the proud a third; and to the vain a fourth. When they wish to move such individuals to act, they speak to the first, *of his personal interest;* to the second, *of the pleasure of doing good;* to the third, *of the necessity of preserving his own dignity;* and to the fourth, *of the great praise* that will attend the performance of the action recommended.

As to intellectual endowments, a person who has heard, for the most fleeting moment, the bursts of melody which flow from the throat of Catalani, cannot be deceived as to the fact of her possessing a great endowment of the faculty of Tune; he who has listened but for a few minutes to the splendid eloquence of Chalmers, can have no doubt that he is gifted with Ideality; and he who has studied the writings of Dr. Thomas Brown, cannot hesitate as to his having manifested profound discriminative and analytic talent. In surveying the prodigies performed by some individuals in mechanics, poetry, painting, and sculpture, it is equally impossible to doubt the existence of particular powers, conferring capacities for excelling in these different branches of art. It is equally easy to find individuals, in whom these various powers are as indubitably deficient. Hence the difficulties of determining the e
ence of particular intellectual talents, and their degrees of s

are not unsurmountable; especially if extreme cases be sought for, and these, as the *instantia ostentiva*, ought to be first resorted to. Men of observation have acted on these principles without hesitation, and without injury to themselves. They have not designed for the orchestra, the individual whom they found incapable of distinguishing betwixt a rude noise and a melodious sound, on the notion, that "a genius for *music*" might be "acquired by habits of study or of business." They do not place in difficult situations, requiring great penetration and much sagacity, individuals who cannot trace consequences beyond the stretch of three ideas; nor do they conceive, that a man, who has no intellectual capacity to-day, may become a genius to-morrow, or in ten years hence, by an effort of the will.

They, no doubt, have always observed, that the faculties are developed in succession; that the child is not in possession of the powers of the full grown man; and that, hence, a boy may be dull at ten, who may turn out a genius at twenty years of age, when his powers are fully unfolded by time. But they do not imagine that *every* boy may be made a genius, by habits of study or of business; nor believe, that, after the faculties are fully developed, any individual may, by exertions of the will, become great in a department of philosophy or science, for which he had previously no natural capacity. They have observed, that cultivation strengthens powers, in themselves vigorous; but they have not found that education can render eminently energetic, dispositions or capacities which nature has created feeble. On the other hand, they have remarked, that, where Nature has bestowed a powerful disposition or capacity of a particular kind, it will hold the predominant sway in the character during life, notwithstanding every effort to eradicate or subdue it. They have noticed, too, that where Nature has bestowed, in an eminent degree, the faculties which constitute genius, the individual will manifest his native superiority, in spite of great obstacles arising from circumstances or situation. The lives of poets, painters, and artists, in every age, display examples of the truth of this observation.

An individual, no doubt, may do particular actions, or even for a time follow a course of action, the same in external appearance, from different internal motives. But few men can pass their whole lives in disguise, or acquire the art of *acting* in the business and enjoyments of life, so habitually and so skilfully, as not to allow their true characters to appear to those who are placed in a favorable situation to observe them; or, if there be persons who do possess this power of dissimulation, it forms the predominant feature in their mental constitution; and, as will afterwards be shown, it is indicated by a particular form of organization. But, farther, let it be observed, that it is only in so far as the *propensities* and *sentiments* of our nature are concerned, that disguise is possible, even in a single case. In every act that depends on the knowing and reflecting faculties, it is absolutely impracticable. No man can either write logical discourses, or trace profoundly an abstract principle, who has *not* powerful reflecting faculties. No one can compose exquisite music, who has *not* the faculty of Tune, or write exquisite poetry, who has *not* the sentiment of Ideality. When, therefore, we perceive, even with the most transient glance, such acts to be performed, we have evidence, insuperable and irresistible, of the existence of the faculties which produce them.

These opinions have been entertained by persons conversant with society, not in consequence of logical deduction or metaphysical investigations, but from the observation of plain facts, presented to the cognizance of their understandings.

Thus fortified, I venture to conclude that the first point is established in favor of Phrenology, viz. that it is possible, by accurate, patient, and continued observation of actions, to discover the true dispositions and capacities which individuals possess. As this philosophy is founded on a comparison betwixt the manifestations of these faculties, and the developement of the brain, the *second* point to be ascertained is, Whether it be possible, in general, to discover *the true form of the brain*, by observing the figure of the head.

OF THE BRAIN, CEREBELLUM, AND SKULL.

THE Anatomy of the Brain is minutely described by Dr. Spurzheim, in his anatomical work. It is not indispensably necessary, although highly advantageous, to become acquainted with in order to become a practical phrenologist. A brief descripti of its general appearance will suffice to convey an idea of it the non-medical reader. The proper subjects for observation a healthy individuals below the middle period of life. The brai strip of its outer covering, the *dura mater*, is represented in figur 1. and 2. These figures and the accompanying descriptions, a not intended for anatomical purposes; the sole object of them is convey some conception of the appearance of the brain, to reade who have no opportunity of seeing it in nature.

Fig. 1.

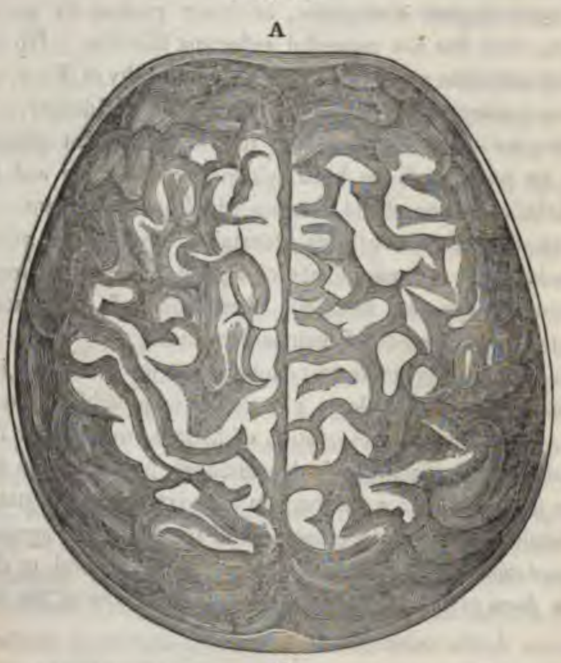


Figure 1 represents the upper surface of the brain, stript of membrane; the sk through the middle part of which a horizontal section is made, surrounds The front is at A; and the line A B is the division between the two hen pheres. A strong membrane called the falciform process of the *dura ma*

represented on page 72, descends into it; and forms the partition. It goes down only about two-thirds of the depth; below which the two hemispheres are joined together by fibres which cross, forming what is called the *corpus callosum*. The waving lines are the convolutions, the furrows between which descend from half an inch to an inch in depth. When water collects in the internal parts they are unfolded, and the brain presents a uniform surface of great extent. The parts seen in this figure are all composed externally of cineritious substance.

FIG. 2.

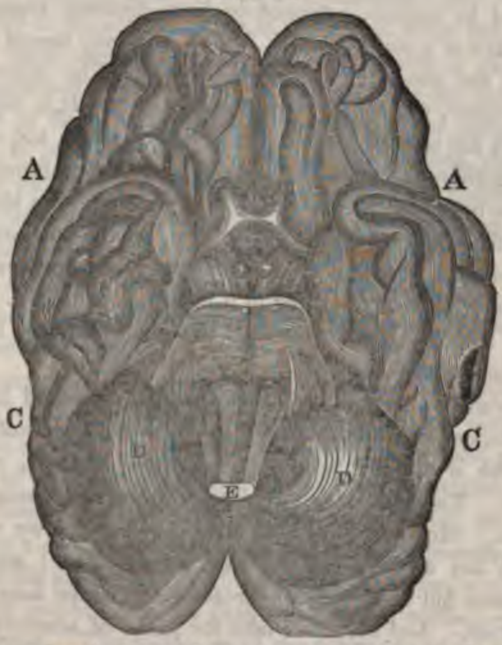


Figure 2. represents the base of the brain taken out of the skull. This figure has been copied from a different brain from that represented in figure 1. It is longer and narrower. The division into hemispheres does not descend to the base. Anatomists, for the sake of giving precision to descriptions, divide the brain into three lobes, called the anterior, middle, and posterior. The parts before AA are called the frontal or anterior lobe; the parts behind CC, the posterior lobe; and the parts between them, the middle lobe. Anatomists draw lines from AA and CC directly up the sides, and over the upper surface of the brain, till they meet at the top, and include in the different lobes the whole parts so mapped out; but the lines are imaginary, and like those of latitude and longitude on a globe, are introduced merely to indicate the localities of the parts. The convolutions before AA lie chiefly on the bones which

form the roofs of the sockets of the eye-balls. The convolutions between A and C lie chiefly above the ear. DD is the cerebellum. E is the *medulla oblongata*, which during life descends almost perpendicularly from the brain, and joins with the top of the spinal marrow.

The BRAIN is a mass of soft matter, not homogeneous, but presenting different appearances. Part of it is white in color, fibrous or striated in texture, arranged in lines distantly resembling the outer surface of a cockle-shell. This is generally named *medullary substance*, and abounds most in the interior. The other matter is of a gray color, and has no fibrous appearance. It is called cineritious, from the similarity of its hue to that of ashes, and sometimes cortical, from its supposed resemblance to bark. It forms the outer part of the brain. The cineritious substance does not blend gradually with the white medullary matter, but, on the contrary, the line, of distinction is abrupt. The cineritious seems to have a greater proportion of blood circulating in it than the medullary. There is no fat or adipose substance within the skull, although it pervades every other part of the body.

The brain consists of two hemispheres, separated by a strong membrane, called the Falciform process of the *dura mater*. Each hemisphere is divided into three lobes, the anterior, middle, and posterior. The cerebellum is distinct from, but connected with, the brain. Mr. Bell observes,* that "whatever we observe on one side has a corresponding part on the other; and an exact resemblance and symmetry † is preserved in all the lateral divisions of the brain. And so, if we take the proof of anatomy, we must admit, that, as the nerves are double, and the organs of sense double, so is the brain double; and every sensation conveyed to the brain is conveyed to the two lateral parts, and the operations performed must be done in both lateral portions at the same moment."

The two hemispheres, and of course the organs of each side, are brought into communication and co-operation by fibres running transversely ; these are called the *corpus callosum*, and the Anterior and Posterior commissures. The cerebellum and brain are only slightly and indirectly connected.

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* Anatomy of the Brain, ii. 381.

† This statement of Mr. Bell is not rigidly correct. There is a general correspondence between the parts on the opposite sides of the brain, but not "an exact symmetry," in the strict sense of these words. The approximation to symmetry is about as great as between the blood-vessels in the right and left arms.

The greater part of the brain is destitute of sensibility : It may be pierced or cut without the patient being aware, from any feeling of pain, that it is suffering injury. Mr. Bell mentions, that he "had his finger deep in the anterior lobes of the brain, when the patient, being at the same time acutely sensible, and capable of expressing himself, complained only of the integument." So far from thinking the parts of the brain which are insensible, to be parts inferior in function (as every part has its use,) Mr. Bell states, that, even from this, he should be led to imagine that they had a higher office, namely, that they were more allied to intellectual operations. The wide difference of function betwixt a part destined to receive impressions, and a part which is the seat of thought, is in accordance with the presence of sensibility in some parts of the brain, and its absence in others.

The external substance of the brain is arranged in convolutions or folds. The convolutions appear intended for the purpose of increasing the superficial extent of the brain, with the least possible enlargement of its absolute size ; an arrangement analogous to that employed in the eye of the eagle and falcon, in which the retina does not form a continuous line, as in man and quadrupeds, but is presented in folds to the rays of light, whereby the intensity of vision is increased in proportion to the extent of nervous surface exposed to their influence. The rolling up of the substance of the brain in folds in a similar manner, strongly indicates that extent of surface is highly important to its functions. In certain low classes of the inferior animals, there are no convolutions. As we ascend in the scale of beings, they increase, "and in man above all other animals, are the convolutions numerous, and the *sulci* (or furrows) deep, and, consequently, the cineritious mass great, and its extension of surface far beyond that of all other creatures."—*Bell's Anat.* ii. 386.

The cineritious matter is extended over all the upper, lateral, and over part of the inferior surfaces of the brain : the white or medullary matter lies within it, and in some places in intimate combination with it. Medullary fibres run from the convolutions of the brain upon one side to the convolutions on the other. These are called *commissures*. "Unless," says Mr. Bell, "the cineritious masses were important organs, why should there be commissures or nerves forming a distinct system, arising and terminating in nothing? But if we take them as commissures, *i. e.* bonds of union betwixt the corresponding sides of the great organ of the mind, we at once perceive how careful nature is to unite the two lateral organs together, and out of two organs to make ONE MORE PERFECT."—P. 386.

Each side of the brain, and also the cerebellum, are supplied with separate arteries conveying the blood to them; but the sinuses or canals, by means of which the blood is returned to the heart, are common to them all.

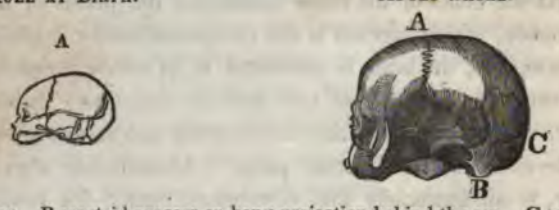
The CEREBELLUM is composed of the same nervous matter with the brain, and presents both cineritious and medullary matter; but, in form and internal arrangement, it is quite unlike the brain. The cerebellum is separated from the brain by a strong membrane, called the *tentorium:* in animals which leap, as the cat and tiger, the separation is produced by a thin plate of bone. Its fibres, however, originate in that part of the *medulla oblongata* called the *corpora restiformia*, from which also the organs of several feelings or propensities arise; so that the brain and cerebellum, although separated by the tentorium, are both connected with the *medulla oblongata*, and through it with each other.

The MEDULLA OBLONGATA is sometimes spoken of as one of the three great divisions of the brain. It is, in fact, the part from which the fibrous matter of the brain and cerebellum proceeds, and it forms, as it were, the capital of the column of the spinal marrow.

OF THE INTEGUMENTS OF THE BRAIN.

THE brain is formed before the bones which invest it. The ossification of the bones of the skull is a gradual process. The brain already formed is invested with strong membranes, and betwixt the coats of the outer membrane the points of ossification commence, which process is not completed until the ninth year.

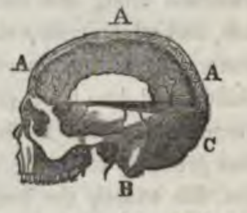
During life, the brain is embraced in its whole peripheral extent by a very thin transparent and delicate membrane called the *pia mater*, which sinks down into its furrows, and serves to convey the blood-vessels to its different parts. Immediately above the *pia mater*, is an extremely thin membrane, named the *tunica arachnoidea*, on account of its extreme tenuity, resembling a spider's web. It covers the surface of the brain uniformly without passing into its folds or cavities. It secretes matter, to lubricate the surfaces of the *pia* and *dura mater*. The *dura mater* is also a thin but strong opaque membrane lining and strongly adhering to the inner surface of the skull, and which embraces the outer surface of the brain above the membrane last mentioned. When in health it does not possess sensibility, and has been pricked without causing pain. All these membranes are pliant in the highest degree, and accommodate themselves precisely to the figure of the brain. The brain, enclosed in them, fills exactly the interior of the skull; so that a cast, in plaster, of the interior of the skull, is a *fac simile* of the brain, covered by the *dura mater*. Between the *dura mater* and brain a very small quantity of fluid is said to exist; but not exceeding a line in thickness. This fluid does not, in any degree that can be distinguished by the hand or eye, cause the form of the interior of the skull to differ from the form of the exterior of the brain enveloped by the *dura mater*. The skull is not an adamantine barrier, confining the brain within specific boundaries; but a strong, yet yielding covering, shielding it, and accommodating itself to its size, while in the progress of its growth. It resembles, in this respect, the shell of a crab or of a snail. At birth, it is small; it increases as the brain increases; and it stops in developement, when the brain has attained its full size. A process of absorption and deposition goes continually on in its substance; so that, if the brain presses from within, the renovating particles arrange themselves according to this pressure, and thus the figure of the skull and of the brain in general correspond. The figures (on p. 72) represent the skull at birth and at maturity respectively.



Skull at Birth. **Adult Skull.**

AA sutures. B mastoid process or bony projection behind the ear. C process of the occipital spine.

The skull is composed of eight bones, for the most part joined by indented edges (AA in the figures above), like dovetailing in carpenter-work. The lines of junction are named Sutures.*



This figure represents the two sides of the skull cut away, down nearly to the level of the eyebrow, leaving a narrow ridge in the middle of the top standing. AAA is the edge of the skull, resembling an arch. The outer surface is called the outer table, the inner surface the inner table; the fine waving lines or net-work between them, like cells in a marrow-bone, is the diploë. The substance hanging down from the skull, having delicate lines traced on it, like the sap-vessels in leaves, is the membrane which separates the two halves of the brain. It is called the falciform process of the *dura mater*, from its resemblance to a scythe. The lines are the blood-vessels; the blood returning from the brain to the heart, goes up these vessels into a canal formed by the membrane all along the line of its attachment to the skull. The course of the blood through the canal is from the front backwards, and then downwards. The two hemispheres of the brain are completely separated, as far as this membrane extends in the cut: At the lower edge of it a white space appears, and the commissure, or collection of fibres which unites the two sides, goes through that space. The cerebellum lies at C, in a part of the skull not opened. The membrane, on reaching the point at C, spreads out to the right and left, and runs forward, and separates the cerebellum from the brain; the brain lying above, and the cerebellum below it. B is the mastoid process, or bone to which the mastoid muscles of the neck are attached. It lies immediately behind the opening of the ear, and is not connected with the brain.

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* There is a cast of the skull, accompanied by an explanatory card, pointing out all the bones, sutures, and processes, with their names; which will render the subject more intelligible than any description.

This cast will soon be for sale by the Publishers—133 Washington St. Boston.

The external and internal smooth surfaces of the bones of the skull, are called their external and internal *tables*, or *plates*, to distinguish them from the intermediate part called the *diploë*, which is of a looser and somewhat cellular texture, resembling the internal structure of the bones. As the diploë is nearly equally thick in every part, it follows that the two tables of the skull are nearly parallel to each other. The internal, indeed, bears some slight impressions of blood-vessels, glands, &c., which do not appear externally, but these are so small as not to interfere with phrenological observations. The departure from perfect parallelism, where it occurs, is limited to a line, $\frac{1}{10}$th or $\frac{1}{8}$th of an inch, according to the age and health of the individual. The difference in developement between a large and a small organ of the propensities and some of the sentiments, amounts to an inch and upwards; and to a quarter of an inch in the organs of intellect, which are naturally smaller than the others.

The integuments which cover the skull on the outside, indisputably lie close upon its surface, and are so completely parallel, as to exhibit its true figure. Thus, then, there is no obstacle in general to the discovery of the figure of the brain, by observations on the form of the skull.

This doctrine has been disputed by many opponents of phrenology; but the greatest anatomists have taught it. Magendie, in his Compendium of Physiology, says, that "the only way of estimating the *volume of the brain* in a living person, is to *measure the dimensions of the skull;* every other means, even that proposed by *Camper*, is uncertain."—*Milligan's Translation*, p. 104.

Mr. Charles Bell also observes, "Thus, we find that the bones of the head are moulded to the brain, and the peculiar shapes of the bones of the head are determined by the original peculiarity in the shape of the brain.* Dr. Gordon, also, in the 49th Number of the Edinburgh Review, has the following words: "But we will acquiesce implicitly for the present in the proposition (familiar to physiologists long before the age of Gall and Spurzheim), that there is, in most instances, a general correspondence between the size of the cranium and the quantity of cerebrum; that large heads usually contain large brains, and small heads small brains."—P. 246.

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* *Bell's Anat.* ii. 300. Mr. Bell adds in foot note, "Certainly the skull is adapted to the form of the brain, but there is a deeper question, which our craniolo

There are, however, cases in which it is *not* possible to discover the form of the brain by examining the skull. These are instances of disease and old age. In disease, the skull may be enlarged or diminished in volume, by causes other than the developement of the brain; and in old age, the inner table of the skull sometimes sinks, while the outer table preserves its original size; in such individuals, the true developement of the brain cannot be accurately inferred from the developement of the head.

There are parts at the base of the brain, in the middle and posterior regions, the size of which cannot be discovered during life, and whose functions in consequence are still unknown. From analogy, and from some pathological facts, they are supposed to be the organs of the sensations of Hunger and Thirst, Heat and Cold, and of some other mental affections, for which cerebral organs have not been discovered; but demonstrative evidence to this effect being wanting, this conjecture is merely stated to incite to farther investigation.

The sutures also interrupt the absolute parallelism; but their situation is known, and only one of them, called the Lambdoïdal, where it passes over the organ of Concentrativeness, presents any

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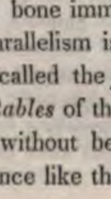
gists have forgotten,—Is the brain constituted in shape with a reference to the future form of the head?" It is difficult to see the importance of this question. Phrenologists maintain that, *de facto*, at every period previous to the decline of life, the skull *is* adapted to the form of the brain; that it increases in size when the brain enlarges, and decreases when it diminishes. I have seen one striking instance of the skull decreasing with the brain; it occurred in an individual who died at the age of thirty-two, after having labored under chronic insanity for upwards of ten years, and whose mental weakness augmented in proportion to the diminution of his brain and shrinking of the skull. The diminution of his head in size attracted his own attention during life. His brain was dissected by Dr. A. Combe after death.—See this case fully reported in the Phrenological Journ. vol. iv. 495.

difficulty to the student. The sagittal suture, which runs longitudinally from the middle of the crown of the head forwards and downwards, sometimes so low as the top of the nose, occasionally presents a narrow prominent ridge, which is sometimes mistaken for developement of the organs of Benevolence, Veneration, Firmness, and Self-esteem. It may, however, be easily distinguished by its narrowness and isolation, from the full broad swell of cerebral developement. In anatomy, projecting bony points are called Processes. The mastoid process of the temporal bone, B in figure, p. 72., which is a small knob immediately behind the ear, serving for the attachment of a muscle, is sometimes mistaken for the indication of large Combativeness. It is, however, merely a bony prominence, and is to be found in every head, and does not indicate developement of brain at all. Another process C, called in anatomy the spinous process of the transverse ridge of the occipital bone, requires to be known. Phrenologists generally name it shortly the occipital spine, and its situation is indicated by C in the figure, p. 72.

There is one part of the skull where the external configuration does not always indicate exactly the size of the subjacent parts of the brain, and upon which objections have been raised, viz. at the top of the nose.

THE FRONTAL SINUS.



The frontal sinus is the dark hole above the nose. This represents it in one individual. It is sometimes larger and sometimes smaller.

At the part of the frontal bone immediately above the top of the nose, a divergence from parallelism is sometimes produced by the existence of a small cavity called the *frontal sinus.* It is formed between the two *plates* or *tables* of the bone, either by the external table swelling out a little, without being followed by the internal, and presenting an appearance like that of a blister on a biscuit, or by the internal table sinking in without being followed by the external; and hence, as the outer surface does not indicate the precise degree of developement of brain beneath, it has been argued that the existence of a frontal sinus is an insuperable objection to Phrenology in general, because it throws so much uncertainty in the way of our observations as completely to destroy their value; other opponents, however, more rationally, confine their objection to those organs only over which the sinus extends.

The first objection is manifestly untenable. Even granting the sinus to be an insuperable obstacle in the way of ascertaining the developement of the organs over which it is situated, it may be observed, *first*, That, in ordinary cases, it interferes with only a few, viz. Form, Size, Weight, Individuality, and Locality; and, *2dly*, It cannot interfere with the other thirty or thirty-one organs, the whole external appearances of which it leaves as unaltered as if it did not at all exist. It would be quite as logical to speak of a snow-storm in Norway obstructing the high road from Edinburgh to London, as of a small sinus at the top of the nose concealing the developements of Benevolence, Firmness, or Veneration, on the crown of the head.

To enable the reader to form a correct estimate of the value of the objection as applicable to the individual organs particularly referred to, I subjoin a few observations. In the *first* place, Below the age of twelve or fourteen, the sinus, if it exists at all, rarely extends so high as the base of the brain; *2dly*, In adult age, it frequently occurs to the extent above admitted;* and, *3dly*, In old age, and in disease, as chronic idiocy and insanity, it is often of very great extent, owing to the brain diminishing in size, and the inner table of the skull following it, while the outer remains stationary. Now, the first cases present no objection, for in them the sinus does not exist so as to interfere with the observation of the size of the brain; the third are instances of disease, which are uniformly excluded in phrenological observations; and thus our attention is limited solely to the cases forming the second class. In regard to them the objection is, that large developement of brain, and large frontal sinus, present so nearly the same appearance that we cannot be sure which is which, and, therefore, that our observations must be inconclusive.

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* This may seem at variance with a statement given in the first edition of this work, on the authority of a friend in Paris, who, in the course of many months' dissections, had never found a frontal sinus except in old age and in disease. In sawing open the skull for anatomical purposes, the section is almost always made horizontally through the middle of the forehead, or *over* the organs of *Tune*, *Time*, and *Eventuality*; and in all the cases alluded to by the gentleman in Paris, this line was followed, and as the sinus rarely extends so high up, he could not, and did not, meet with it. On examining vertical sections, however, for the purpose of seeing the sinus, he has since frequently found it to the extent mentioned in the text.

To this the following answer is given :—1*st*, We must distinguish between the possibility of *discovering the functions* of an organ, and of applying this discovery practically in *all* cases, so as to be able, in every instance, to predicate the exact degrees in which every particular mental power is present in each individual. The sinus does not in general extend as high as the base of the brain until after the age of twelve or fourteen, before which is precisely the period when Individuality is most conspicuously active in the mind. If, then, in children, in whom no sinus exists, that mental power is observed to be strong when the part of the head is large, and weak when it is small, we ascertain the function, whatever may subsequently embarrass us. If, in after-life, the sinus comes to exist, this throws a certain impediment in the way of the practical application of our knowledge; and, accordingly, phrenologists admit a difficulty in determining the exact degree of mental power, which, in adult age, will accompany any particular developement of the organs lying immediately above the top of the nose, except in extreme instances, in which even the sinus itself will form but a small fraction of the difference between great developement and deficiency. In the next place, the objection applies only to one set of cases. If there be a hollow or depression in the external surface of the skull at the situation of the organs in question, and the sinus be absent, then the organ must necessarily be deficient in proportion to the depression. If, with such an external appearance, the sinus be present, which is not generally the case, but which, for the sake of argument, I shall suppose, then it must be formed by the inner table receding more than the outer table; and hence a greater deficiency of organ will actually exist than is externally indicated; and, of course, the deficiency of mental power will be *at least equal* to the external indication of deficiency in the organ. In cases of this kind, therefore, the sinus forms no objection. Thus the only instances in which it can occasion embarrassment are those in which it causes a swelling of the parts of the skull in question outward, to which there is no corresponding developement of brain within. Now if, in all cases in youth, when no sinus exists, and in all cases in mature age in which a depression is found, the mental power is ascertained to correspond with the external developement; and if, in certain cases, in adult age, an external indication appears to which the mental power does not correspond, what conclusion falls to be drawn according to the rules of a correct logic? Not that the functions of the parts are uncertain; because they have been ascertained in cases not liable to impediment or objection; but only that, in the particular cases in mature age, in which the external developement is large, and the corresponding power absent, *there must be a frontal sinus.*

Finally, by practice in observing, it is possible, in general, to distinguish between external appearances produced by frontal sinus, and those indicating a large developement of organs. In the *first* instance, the forms of the elevations are irregular; in the *second*, they are symmetrical, and correspond to the shapes of the organs delineated on the busts.

If, then, men in general manifest their true and natural sentiments and capacities in their actions; and if, in healthy individuals, the form of the brain may be discovered, by observing the figure of the head, it follows that the true faculties, and the true developement, may be compared in living subjects; and, on these grounds, the proposition is established, That the Phrenological mode of philosophizing is competent to enable us to attain the results sought for.

PRACTICAL APPLICATION OF THE PRINCIPLES OF PHRENOLOGY.

It has already been mentioned, that there are two hemispheres of the brain, corresponding in form and functions. There are, therefore, two organs for each mental power; one in each hemisphere. Each organ extends from the medulla oblongata, or top of the spinal marrow, to the surface of the brain or cerebellum; and every individual possesses all the organs in a greater or lesser degree. When the two organs of a faculty are situated immediately on the sides of the middle line separating the hemispheres, they are included in one space on the busts and plates. To save circumlocution, the expression, " organ " of a faculty will be used, but both organs will be thereby meant.

The brain is not divided by lines corresponding to those delineated on the busts; but the forms assumed by its different parts, when extremely large or small, exactly resemble those there represented. Each part is inferred to be a separate organ; because its size, *cæteris paribus*, bears a regular proportion to the energy of a particular mental power.

As size, *cæteris paribus*, is a measure of power,* the first object ought to be to distinguish the size of the brain generally, so as to judge whether it be large enough to admit of manifestations of ordinary vigor; for if it be too small, idiocy is an invariable consequence. The second object should be to ascertain the relative proportions of the different parts, so as to determine the direction in which the power is greatest.

It is proper to begin with observation of the more palpable differences in size, and particularly to attend to the relative proportions of the different lobes. The size of the anterior lobe is the measure of intellect. In the brain it is easily distinguished, and in the living head it is indicated by the portion lying before Constructiveness and Benevolence. Sometimes the lower part of the frontal lobe, connected with the perceptive faculties, is the largest, and this is indicated by the line before Constructiveness, extending farthest out at the base; sometimes the upper part, connected with the reflecting powers, is the most amply developed, which occurs when the line extends farthest in the upper region; sometimes both are equally developed. The student is particularly requested to resort invariably to this mode of estimating the size of the anterior lobe, as the best for avoiding mistakes. In some individuals, and in some Peruvian skulls in particular, the forehead is tolerably perpendicular, so that, seen in front, and judged of without attending to depth, it appears to be largely developed; whereas, when viewed in the way now pointed out, it is seen to be extremely shallow; in other words, the mass is not large, and the intellectual manifestations will be proportionately feeble.

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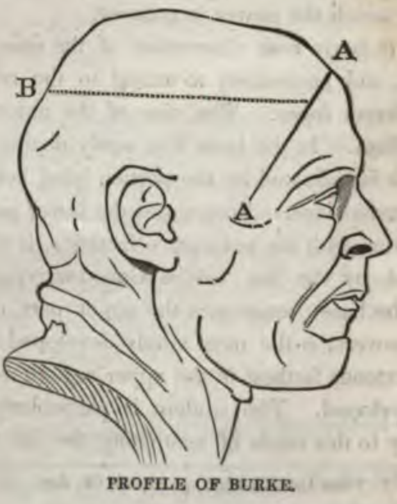
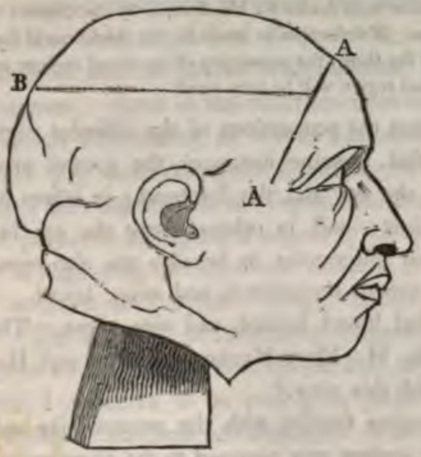
* See Introduction, p. 22, 23, 24, &c.

The posterior lobe is devoted chiefly to the animal propensities. In the brain its size is easily distinguished; and in the living head a line may be drawn perpendicularly to the mastoid process, and all behind will belong to the posterior lobe. Wherever this and the basilar region are large, the animal feelings will be strong, and *vice versa*.

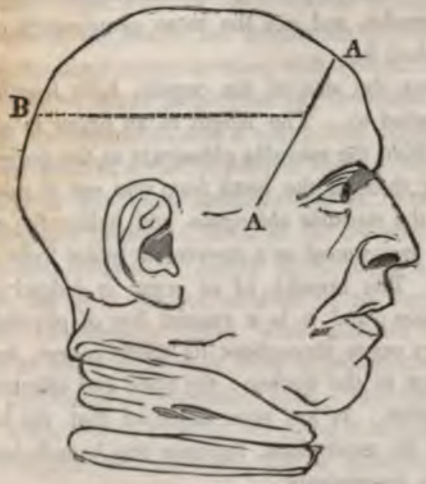
The coronal region of the brain is the seat of the moral sentiments; and its size may be estimated by the extent of elevation and expansion of the head above the organs of Causality in the forehead, and of Cautiousness in the middle of the parietal bones. When the whole region of the brain rising above these organs is shallow or narrow, the moral feelings will be weakly manifested; when high and expanded, they will be vigorouslv displayed.



PROFILE OF BURKE.



PROFILE OF HARE.



PROFILE OF REV. MR. M.

All that lies *before* line AA is the anterior lobe, or organs of the intellectual faculties. It is larger in the Reverend Mr. M. than in the other two The space *above* the horizontal dotted line B marks the region of the moral sentiments: The space fron A backwards, below B, indicates the region of the propensities, which in Burke and Hare is much larger in proportion to the size of the moral and intellectual regions than in the Reverend Mr. M.

These figures were drawn by Mr. Joseph, by the Camera lucida, from casts from nature. If deduction be made for the thickness of the integuments and skull in all the three, the proportion of the moral regions in Burke and Hare to the animal region will be very small.

By observing the proportions of the different regions, it will be discovered, that, in some instances, the greater mass of the brain lies between the ear and the forehead; in others between the ear and the occiput; and in others above the ear in perpendicular height. Great differences in breadth are also remarkable; some heads being narrow throughout, and some broad. Some are narrow before, and broad behind, and *vice versa*. The busts of the Reverend Mr. M., Mary Macinnes, Pallet, and Haggart, may be contrasted with this view.*

After becoming familiar with the general size and configuration of heads, the student may proceed to the *observation of individual organs;* and, in studying them, the real dimensions, including both length and breadth, and not the mere prominence of each organ, should be looked for.

In estimating the size of the organs, both length and breadth must be attended to. The length of an organ is ascertained by the distance from the *medulla oblongata* to the peripheral surface. A line passing through the head from one ear to the other, would nearly touch the *medulla oblongata*, and hence the external opening of the ear is assumed as a convenient point from which to estimate length. The breadth of an organ is judged of by its peripheral expansion; and it is a general law of physiology, that the breadth of any organ throughout its whole course, bears a relation to its expansion at the surface: the optic and olfactory nerves are examples in point. It has been objected that the breadth of the organs cannot be ascertained, because the boundaries of them are not sufficiently determinate.

In answer, I observe, that although the boundaries of the different organs cannot be determined with mathematical precision, like those of a triangle, a square, or rhomboid; yet, in a single case, an accurate observer may make a very near approximation to the truth; and, in a great multitude of cases, the very doctrine of chances, and of the compensation of errors, must satisfy any one that these boundaries may be defined with sufficient precision for all practical purposes. Even in the exact sciences themselves, an approximate solution is frequently all that is attainable; and if the opponents would only make themselves masters of the binomial theorem, or pay a little attention to the expansion of infinite series, they would not persist in calling for a degree of accuracy which is impossible, or in neglecting an important element in a calculation, because it is involved in a certain liability to error within very narrow limits. The absurdity of the reason assigned for this omission, is rendered still more apparent by the case of the prismatic spectrum, which I conceive to be exactly in point. Now, what is it that this beautiful phenomenon displays? The seven primary colors, arranged in a peculiar order, and glowing with an almost painful intensity. But each of these colors occupies a certain space in relation to the whole, the boundaries of which it may be impossible for the hand or eye to trace with geometrical precision, although the relative space in question has nevertheless been made the subject of measurement, and a very close approximation obtained from the mean of a vast number of trials. According to the principle followed by some antiphrenologists, however, *breadth* should be altogether neglected, because the boundaries of the respective colors are, forsooth, "purely ideal," as if a mathematical line were not the most perfect idealism or abstraction which the mind of man can possibly form. This idealism or abstraction, however, has no more to do with those approximations which may be obtained practically by repeated trials, than the mathematical definition of a line with a metallic rod; and it is a mere quibble to pretend, for example, that we ought not to measure the length of the rod, because it may not correspond with the definition of the line. Upon the strange principle which some opponents have adopted, they must be prepared to maintain, that the boundaries of a hill or hillock are purely *ideal*, and depend in *every* instance on the *fancy* of the measurer.*

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* The Casts and Skulls, referred to in the subsequent pages, will soon be for sale by the publishers, M. C. & L.

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* *Caledonian Mercury*, 11th June, 1829.

The science of Geology affords another illustration. The leading rocks bear so many characteristic marks of distinction, that no ordinary observer can mistake them, yet particular specimens approach the same standard so nearly that the most skilful observers will sometimes err, and believe basalt to be clay-stone, or gneiss granite. In teaching this science, however, the leading features of the rocks are found sufficient to guide the student to knowledge of the principles; and his own sagacity, improved by experience, enables him in due time to deal successfully with the intricacies and difficulties of the study. The same rule ought to be followed in cultivating phrenology.

An organ may thus be likened to an inverted cone, with its apex in the medulla, and its base at the surface of the brain; the broader the base and longer the distance between it and the apex, the greater will be the size, or the quantity of matter which it will contain.* This simile, however, is introduced merely as an illustration, and I do not assert that the organs may be seen regularly disposed in the brain in the shape of cones. Hence, if the line from the ear to the forehead be much larger than from the ear backward, and the breadth nearly the same, we infer that the organs in the forehead predominate. If, on the other hand, the forehead be very narrow, as in Thurtell, and the hindhead very broad, we hold the posterior organs to predominate, although the length be the same in both directions.

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* "There are many convolutions," says Dr. Spurzheim, "in the middle line between the two hemispheres of the brain, and others at the basis and between the anterior and middle lobes, which do not appear on the surface; but it seems to me that a great part, at least, of every organ does present itself there, and further, that all the parts of each organ are equally developed, so that, though a portion only appear, the state of the whole may be inferred. The whole cerebellum does not reach the skull, yet its functions may be determined from the part which does. The cerebral parts, situated in the middle line between the hemispheres, seem proportionate to the superincumbent convolutions; at least I have always observed a proportion in the vertical direction between them."—*Phrenology*, p. 121.

The cerebral parts, situated around "and behind the orbit, also require some care and experience on the part of the phrenologist, to be judged of accurately. Their developement is discoverable from the position of the eye-ball, and from the figure of the superciliary ridge. According as the eye-ball is prominent or hidden in the orbit, depressed or pushed sideward, inward, or outward, we may judge of the developement of the organs situated around and behind it."—*Ibid.* Particular directions for observing the parts there situated will be given, when treating of the relative organs.

The *whole* organs in a head should be examined, and their relative proportions noted. Errors may be committed at first; but without practice, there will be no expertness. Practice, with at least an average endowment of the organs of Form, Size, and Locality, are necessary to qualify a person to make observations with success. Individuals whose heads are very narrow between the eyes, and little developed at the top of the nose, where these organs are placed, experience great difficulty in distinguishing the situations and minute shades in the proportions of different organs. (See Note as to Dr. Gall, No. I. of Appendix.) If one organ be much developed, and the neighboring organs very little, the developed organ will present an elevation or protuberance; but if the neighboring organs be developed in proportion, no protuberance can be perceived, and the surface is smooth. The student should learn from books, plates, and casts, or personal instruction (and the last is by far the best,) to distinguish the *form* of each organ, and its *appearance*, when developed in different proportions to the others, because there are slight modifications in the position of them in each head.

The phrenological bust shows the situations of the organs, and their proportions, only in one head; and it is impossible by it to communicate more information.* The different appearances in all the varieties of relative size, must be discovered by inspecting *a number* of heads; and especially by contrasting instances of extreme developement with others of extreme deficiency. No adequate idea of the foundation of the science can be formed until this is done. In cases of extreme size of single organs, the *form* delineated in the bust is distinctly perceived.

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* Attempts have been made by opponents to represent certain changes, in the numbering and marking of the organs in busts recently published, as "a Revolution in Phrenology." A brief explanation will place this matter in its true light. The phrenological bust sold in the shops is an *artificial* head, the utility of which depends on the degree in which the delineation of the organs on it approaches to the appearances *most generally* presented by the organs in nature. The first bust sold in this country exhibited the organs as they would be found in a particular head, not very common in this country, the bust having been imported from the Continent, and national heads being modified as much as national features. On 1st October, 1824, a new bust was published in Edinburgh, in which the delineation approached nearer to the appearance and relative proportions presented by the organs in this country. Subsequent observations showed that this bust

The question will perhaps occur, If the relative proportions of the organs differ in each individual, and if the phrenological bust represents only their *most common proportions*, how are their boundaries to be distinguished in any particular living head? The

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might be brought still more closely to resemble the most common proportions of the organs in Britain; and, on 1st April, 1829, certain modifications were made on it accordingly. The nature of this operation may be explained by a simple illustration. Suppose that, in 1819, an artist had modelled a bust, resembling, as closely as his skill could reach, the face most commonly met with in Scotland, and that, to save the trouble of referring to the different features by name, he had attached numbers to them, beginning at the chin, and calling it No. 1., and so on up to the brow, which we may suppose to be No. 33. In this bust he would necessarily give certain proportions to the eyes, nose, cheek, mouth, and chin. But suppose he were to continue his observations for five years, it is quite conceivable he might come to be of opinion that, by making the nose a little shorter, the mouth a little longer, the cheeks a little broader, and the chin a little sharper, he could bring the artificial face nearer to the *most general* form of the Scottish countenance; and that he might arrange the *numbers* of the features with greater philosophical accuracy; and suppose he were to publish a new edition of his bust with these modifications of the features, and with the numeration changed so that the mouth should be No. 1., and the chin No. 5., and the brow No. 35., what should we think of a critic who should announce these alterations as "a revolution" in human physiognomy, and assert that, because the numbers were changed, the nose had obliterated the eyes, and the chin had extinguished the mouth? This is what the opponents have done in regard to the new phrenological bust. In the modifications which have been made on it, the essential forms and relative situations of all the organs have been preserved, and there is no instance of the organ of Benevolence being turned into that of Veneration, or Veneration into Hope, any more than, in the supposed new modelled face, the nose would be converted into the eyes, or the eyes into the mouth.

In regard to the numeration, again, the changes are exactly analogous to those which are before supposed to take place in regard to the features: The organ of Ideality formerly was numbered 16, and now it is numbered 19, but the organ and function are nothing different on this account. Dr. Spurzheim adopted a new order of numbering, from enlarged observation of the anatomical relation of the organs, and his improvements have been adopted in Edinburgh and Dublin answer is, By their *forms* and *appearances*. Each organ has a form, appearance, and situation, which it is possible, by practice, to distinguish, in the living head, otherwise Phrenology cannot have any foundation.

When one organ is very largely developed, it encroaches on the space usually occupied by the neighboring organs, the relative situations of which are thereby slightly altered. When this occurs, it may be distinguished by the greatest prominence being near the centre of the large organ, and the swelling extending over a portion only of the other. In these cases the *shape* should be attended to; for the form of the organ is then easily recognised, and is a sure indication of the particular one which is largely developed. The observer should learn, by inspecting a skull, to distinguish the mastoid process behind the ear, as also bony excrescences sometimes formed by the sutures, several bony prominences which occur in every head, from elevations produced by developement of brain.

In observing the *appearance* of individual organs, it is proper to begin with the largest, and select extreme cases. The mask of Mr. Joseph Hume may be contrasted with that of Dr. Chalmers for Ideality; the organ being much larger in the latter than in the former. The casts of the skulls of Raphael and Haggart may be compared at the same part; the difference being equally conspicuous. The cast of the Reverend Mr. M. may be contrasted with that of Dempsey, in the Love of Approbation; the former having this organ large, and the latter small. Self-Esteem in the latter being exceedingly large, may be compared with the same organ in the skull of Dr. Hette, in whom Love of Approbation is much larger than Self-Esteem. The organ of Constructiveness in Raphael may be compared with the same organ in the New Holland skulls. Destructiveness in Bellingham may be compared with the same organ in the skulls of the Hindoos; the latter people being in general tender of life. Firmness large, and Conscientiousness deficient, in King Robert Bruce, may be compared with the same organs reversed in the cast of the head of a lady (Mrs. H.), which is sold as illustrative of these organs. The object of making these contrasts is to obtain an idea of the different *appearances* presented by organs, when very large and very small.

The terms used to denote the gradations of size in the different organs, in an increasing ratio, are

Very small
Small
Rather small
Moderate
Rather full
Full
Rather large
Large
Very Large.

Captain Ross has suggested, that numerals may be applied with advantage to the notation of developement. He uses decimals; but these appear unnecessarily minute. The end in view may be attained by such a scale as the following:

1.
2. Idiocy
3.
4. Very small
5.
6. Small
7.
8. Rather small
9.
10. Moderate
11.
12. Rather full.
13.
14. Full
15.
16. Rather large
17.
18. Large
19.
20. Very large.

The intermediate figures denote intermediate degrees of size, for which we have no names. The advantage of adopting numerals would be, that the values of the extremes being known, we could judge accurately of the dimensions denoted by the intermediate numbers; whereas it is difficult to apprehend precisely the degrees of magnitude indicated by the terms small, full, large, &c. unless we have seen them applied by the individual who uses them.

The terms small, moderate, full, &c. indicate the relative proportions of the organs to each other in the same head; but as the different organs may bear the same proportions in a small and in a large head, these terms do not enable the reader to discover, whether the head treated of be in its general magnitude small, moderate, or large. To supply this information, measurements by calipers are resorted to; but these are used not to indicate the dimensions of particular organs, for which purpose they are not adapted, but merely to designate the *general size* of the head.

The following are a few measurements from nature taken promiscuously from many more in my possession.

Table of Measurements by Callipers.

Males between 25 and 50.	From Occipital Spine to Individuality.	From Occipital Spine to Ear.	From Ear to Individuality.	From Ear to Firmness.	From Destructiveness to Destructiveness.	From Cautiousness to Cautiousness.	From Ideality to Ideality.
1.	$7\frac{5}{8}$	$4\frac{3}{8}$	$4\frac{7}{8}$	$5\frac{7}{8}$	$5\frac{7}{8}$	$5\frac{4}{8}$	$5\frac{3}{8}$
2.	$6\frac{5}{8}$	$3\frac{4}{8}$	$4\frac{3}{8}$	$5\frac{6}{8}$	$5\frac{5}{8}$	$5\frac{6}{8}$	$4\frac{6}{8}$
3.	$8\frac{2}{8}$	$4\frac{7}{8}$	$5\frac{3}{8}$	$6\frac{4}{8}$	$6\frac{4}{8}$	6	$5\frac{3}{8}$
4.	$7\frac{1}{8}$	4	5	$5\frac{4}{8}$	6	$5\frac{4}{8}$	$5\frac{3}{8}$
5.	8	$4\frac{7}{8}$	$5\frac{2}{8}$	$6\frac{2}{8}$	$6\frac{3}{8}$	6	$5\frac{3}{8}$
6.	8	$4\frac{6}{8}$	$4\frac{6}{8}$	$5\frac{7}{8}$	$5\frac{6}{8}$	$5\frac{6}{8}$	$5\frac{3}{8}$
7.	$7\frac{4}{8}$	$4\frac{3}{8}$	$4\frac{6}{8}$	$5\frac{6}{8}$	$6\frac{1}{8}$	$5\frac{7}{8}$	$5\frac{4}{8}$
8.	$7\frac{4}{8}$	$4\frac{2}{8}$	$4\frac{6}{8}$	$5\frac{5}{8}$	$5\frac{7}{8}$	$5\frac{4}{8}$	$5\frac{1}{8}$
9.	$7\frac{4}{8}$	$4\frac{7}{8}$	$4\frac{7}{8}$	6	$5\frac{6}{8}$	$5\frac{6}{8}$	$5\frac{1}{8}$
10.	$8\frac{2}{8}$	5	$5\frac{3}{8}$	$5\frac{7}{8}$	$6\frac{3}{8}$	$5\frac{4}{8}$	$5\frac{4}{8}$
11.	$7\frac{2}{8}$	$4\frac{3}{8}$	5	$5\frac{7}{8}$	$5\frac{4}{8}$	$5\frac{3}{8}$	$4\frac{6}{8}$
12.	$7\frac{4}{8}$	$4\frac{3}{8}$	5	6	$5\frac{6}{8}$	$5\frac{7}{8}$	$4\frac{6}{8}$
13.	$7\frac{3}{8}$	$4\frac{1}{8}$	$4\frac{6}{8}$	$5\frac{6}{8}$	$5\frac{6}{8}$	$5\frac{6}{8}$	$5\frac{3}{8}$
14.	$7\frac{1}{8}$	$3\frac{7}{8}$	$4\frac{4}{8}$	$5\frac{5}{8}$	$6\frac{3}{8}$	$5\frac{6}{8}$	5
15.	$7\frac{3}{8}$	$4\frac{1}{8}$	$4\frac{7}{8}$	$6\frac{1}{8}$	6	6	5
16.	$7\frac{7}{8}$	$4\frac{3}{8}$	$5\frac{1}{8}$	6	$6\frac{3}{8}$	$5\frac{3}{8}$	$5\frac{3}{8}$
17.	$7\frac{7}{8}$	$4\frac{4}{8}$	$5\frac{1}{8}$	$6\frac{4}{8}$	$6\frac{4}{8}$	$6\frac{1}{8}$	$5\frac{4}{8}$
18.	$7\frac{1}{8}$	$4\frac{1}{8}$	5	$5\frac{7}{8}$	$5\frac{6}{8}$	$5\frac{3}{8}$	$4\frac{7}{8}$
19.	8	$4\frac{7}{8}$	$5\frac{4}{8}$	$6\frac{1}{8}$	6	6	$4\frac{7}{8}$
20.	7	$4\frac{1}{8}$	$4\frac{5}{8}$	$5\frac{5}{8}$	$5\frac{6}{8}$	$5\frac{3}{8}$	$4\frac{6}{8}$
	$151\frac{5}{8}$	$86\frac{1}{8}$	$99\frac{1}{8}$	$118\frac{4}{8}$	$119\frac{3}{8}$	$113\frac{7}{8}$	$103\frac{3}{8}$
Total divided by 20 gives average.	$7\frac{4}{8}$	$4\frac{3}{8}$	$4\frac{19}{20}$	$5\frac{19}{20}$	$5\frac{16}{20}$	$5\frac{14}{20}$	$5\frac{3}{20}$

These measurements are taken above the muscular integuments, and show the sizes of the different heads in these directions; but I repeat that they are not given as indications of the dimensions of any particular organs. The callipers are not suited for giving this latter information, for they do not measure length from the medulla oblongata, nor do they indicate breadth, both of which dimensions must be attended to, in estimating the size of individual organs. The new craniometer is preferable for ascertaining length, and the breadth may be judged of by means of the hand or eye. The average of these twenty heads will be higher than that of the natives of Britain generally, because there are several large heads among them, and none small.

It ought to be kept constantly in view, in the practical application of Phrenology, that it is the size of each organ in proportion to the others *in the head of the individual observed*, and not their *absolute size*, or their size in reference to any standard head, that determines the predominance in him of particular talents or dispositions. Thus, in the head of Bellingham, *Destructiveness* is very large, and the organs of the moral sentiments and intellect are small in proportion; and according to the rule, that, *cæteris paribus*, size determines energy, Bellingham's most powerful tendencies are inferred to have been towards cruelty and rage. In the skulls of several Hindoos, the organ of Destructiveness is small in proportion to the others, and we conclude, that the tendency of such individuals would be weakest towards the foregoing passions. But in the head of Gordon, the murderer of the pedlar boy, the absolute size of Destructiveness is less than in the head of Raphael; yet Raphael was an amiable man of genius, and Gordon an atrocious murderer. This illustrates the rule, that we ought not to judge by absolute size. In Gordon, the organs of the moral sentiments and intellectual faculties are small in proportion to that of Destructiveness, which is the largest in the brain; while in Raphael, the moral and intellectual organs are large in proportion to Destructiveness. On the foregoing principle, the most powerful manifestations of Raphael's mind ought to have been in the department of sentiment and intellect, and those of Gordon's mind in Destructiveness and animal passion; and their actual dispositions corresponded. Still the dispositions of Raphael would be characterised by the large size of this organ. It would communicate that warmth and vehemence of temper, which are found only when it is large, although the higher powers might restrain it from abuse.

It is one object to prove Phrenology to be true, and another to teach a beginner how to observe organs. For the first purpose, we never compare an organ in one head with the same organ in another; because, it is the predominance of particular organs in the *same head*, that gives ascendency to particular faculties in the individuals; and, therefore, *in proving phrenology*, we compare the different organs of the same head. But in learning to observe, it is useful to contrast the same organ in different heads, in order to become familiar with its appearance in different sizes and combinations.

With this view, it is proper to begin with the larger organs; and two persons of opposite dispositions, in the particular points to be compared, ought to be placed in juxtaposition, and their heads observed. Thus, if we take the organ of Cautiousness, we should examine its developement in those whom we know to be remarkable for timidity, doubts and hesitation. We should contrast the appearance of the organ in such cases with that which it presents in individuals remarkable for precipitancy, and into whose minds doubt or fear rarely enters: or a person who is unable to distinguish one note from another, may be compared, in regard to the organ of Tune, with another who has a high natural genius for music. No error is more to be avoided, than beginning with the observation of the smaller organs, and examining these without a contrast.

An objection is frequently stated, that persons having large heads have "little wit," while others with small heads are "very clever." The phrenologist never compares mental ability in general with size of brain in general; for the fundamental principle of the science is, that different parts of the brain have different functions, and that hence the *same absolute quantity* of brain, if consisting of intellectual organs, may be connected with the highest genius; while, if consisting of the animal organs, lying immediately above and behind the ears, may indicate the most fearful energy of the lower propensities. The brains of Charibs seem to be equal in absolute size to those of average Europeans, but the chief developement of the former is in the animal organs, and of the latter in the organs of sentiment and intellect; and no phrenologist would expect the one to be equal in intelligence and morality to the other, merely because their brains are equal in absolute magnitude. The proper test is to take two heads, in sound health, and of similar temperament and ages, in each of which the several organs are similar in their proportions, but the one of which is large, and the other small; and then, if the preponderance of power of manifestation is not in favor of the first, Phrenology must be abandoned as destitute of foundation.

In comparing the brains of the lower animals with the human brain, the phrenologist looks solely for the reflected light of analogy, to guide him in his researches, and never founds a direct argument in favor of the functions of the different parts of the human brain from any facts observed in regard to the lower animals; and the reason is, that such different genera of animals are too dissimilar in constitution and external circumstances, to authorise him to draw positive results from comparing them.[*] Many philosophers, being convinced that the brain is the organ of mind, and having observed that the brain of a man is larger than that of the majority of tame animals, as the horse, dog, ox, have attributed the mental superiority of man to the superiority in absolute size of his brain; but the phrenologist does not acknowledge this conclusion as in accordance with the principles of his science. The brain in one of the lower creatures may be very large, and, nevertheless, if it be composed of parts appropriated to the exercise of muscular energy, or the manifestation of animal propensities, its possessor may be far inferior in understanding or sagacity to another animal, having a smaller brain, but composed chiefly of parts destined to manifest intellectual power.[†] Whales and elephants have a brain larger than that of man, and yet their sagacity is not equal to his; but nobody pretends that the parts destined to manifest intellect are larger, in proportion to the convolutions intended to manifest propensity, in these animals than in man; and hence the superior intelligence of the human species is no departure from the general analogy of nature.

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[*] Dr Vimont of Paris, in his work on Human and Comparative Phrenology, has made an admirable and splendid contribution to the science in this department.

[†] Spurzheim's Phrenological System, chap. 4

In like manner, the brains of the monkey and dog are smaller than those of the ox, ass, and hog, and yet the former approach nearer to man in regard to their intellectual faculties. To apply the principles of Phrenology to them, it would be necessary to discover what parts manifest intellect, and what propensity, in each species; and then to compare the power of manifesting each faculty with the size of its appropriate organ. If size were found not to be a measure of power, then, in that species, the rule under discussion would fail; but even this would not authorise us to conclude that it did not hold good in regard to man; for human Phrenology is founded, not on analogy, but on positive observations. Some persons are pleased to affirm, that the brains of the lower animals consist of the same parts as the human brain, only on a smaller scale; but this is highly erroneous. If the student will procure brains of the sheep, dog, fox, calf, horse, or hog, and compare them with the human brain, or the casts of it sold in the shops, he will find a variety of parts, especially in the convolutions which form the organs of the moral sentiments and the reflecting faculties, wanting in the animals.

In commencing the study of Phrenology, it is of great importance to have a definite object in view. If the student desire to find the truth, he will consider first the general principles, developed in the introduction, and the presumptions for and against them, arising from admitted facts in mental Philosophy and Physiology. He will next proceed to make observations in nature, qualifying himself by previous instruction in the forms, situations, appearances, and functions of the organs.

The circumstances which modify the effects of size, are constitution, health, and exercise; and the student ought never to omit the consideration of these, for they are highly important. The first and second have already been considered on pages 29, 30, and 31, to which I beg leave to refer. In addition to what is there stated, I observe that the temperaments rarely occur simple in any individual, two or more being generally combined. The bilious and nervous is a common combination, which gives strength and activity; the lymphatic and nervous is also common, and produces sensitive delicacy of mental constitution, conjoined with indolence. The nervous and sanguine combined give extreme vivacity, but without corresponding vigor. Dr. Thomas of Paris has published a theory of the temperaments to the following effect. When the digestive organs filling the abdominal cavity are large, and the lungs and brain small, the individual is lymphatic; he is fond of feeding, and averse to mental and muscular exertion. When the heart and lungs are large, and the brain and abdomen small, the individual is sanguine; blood abounds and is propelled with vigor: he is therefore fond of muscular exercise, but averse to thought. When the brain is large, and the abdominal and thoracic viscera small, great mental energy is the consequence. These proportions may be combined in great varieties, and modified results will ensue.

In some individuals the brain seems to be of a finer texture than in others; and there is then a delicacy and *fineness* of manifestation, which is one ingredient in genius. A harmonious combination of organs gives *justness* and soundness of perception, but there is a quality of fineness distinguishable from this. Byron possessed this quality in a high degree.

If, in each of two individuals, the organs of propensity, sentiment, and intellect, are equally balanced, the general conduct of one may be vicious, and that of another moral and religious. But the question here is not one of *power*, for as much *energy* may be displayed in vice as in virtue, but it is one of *direction* merely. Now, in cases where an equal developement of *all* the organs exists, *direction* depends on *external* influences, and no phrenologist pretends to tell to what objects the faculties have been directed, by merely observing the size of the organs.

Suppose that two individuals possess an organization exactly similar, but that one is highly educated, and the other left entirely to the impulses of nature; the former will manifest his faculties with higher *power* than the latter; and hence it is argued, that size is not in all cases a measure of energy.

Here, however, the requisite of *cæteris paribus* does not hold. An important condition is altered, and the phrenologist uniformly allows for the effects of education, before drawing positive conclusions.* It may be supposed, that, if exercise thus increases power, it is impossible to draw the line of distinction between energy derived from this cause, and that which proceeds from size in the organs, and hence that the real effects of size can never be determined. The answer to this objection is, that education may cause the faculties to manifest themselves with the highest degree of energy *which the size of the organs will permit*, but that size fixes a limit which education cannot surpass. Dennis, we may presume, received some improvement from education, but it did not render him equal to Pope, much less to Shakspeare or Milton: therefore, if we take two individuals whose brains are equally healthy, but whose organs differ in size, and educate them alike, the advantages in power and attainment will be greatest in the direct ratio of the size, in favor of the largest brain. Thus the objection ends in this,—that if we compare brains in opposite conditions, we may be led into error—which is granted; but this is not in opposition to the doctrine that, *cæteris paribus*, size determines power. Finally—extreme deficiency in size produces incapacity for education, as in idiots; while extreme developement, if healthy, as in Shakspeare, Burns, Mozart, anticipates its effects, in so far that the individuals educate themselves.

In saying, then, that, *cæteris paribus*, size is a measure of power, phrenologists demand no concessions which are not made to physiologists in general; among whom, in this instance, they rank themselves.

There is a great distinction between *power* and *activity* of mind; and, as size in the organs is an indication of the former only, it is proper to keep this difference in view. In physics, *power* is quite distinguishable from activity. The balance-wheel of a watch moves with much rapidity; but so slight is its impetus, that a hair would suffice to stop it; the beam of a steam-engine traverses slowly and ponderously through space, but its power is prodigiously great.

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* Phrenological Transactions, p. 308.

In muscular action, these qualities are recognised with equal facility as different. The greyhound bounds over hill and dale with animated agility; but a slight obstacle would counterbalance his momentum, and arrest his progress. The elephant, on the other hand, rolls slowly and heavily along; but the impetus of his motion would sweep away an impediment sufficient to resist fifty greyhounds at the summit of their speed.

In mental manifestations (considered apart from organization) the distinction between power and activity is equally palpable. On the stage, Mrs. Siddons *senior* and Mr. John Kemble were remarkable for the solemn deliberation of their manner, both in declamation and action, and yet they were splendidly gifted in power. They carried captive at once the sympathies and understanding of the audience, and made every man feel his faculties expanding, and his whole mind becoming greater under the influence of their energies. This was a display of power. Other performers, again, are remarkable for vivacity of action and elocution, who, nevertheless, are felt to be feeble and ineffective in rousing an audience to emotion. *Activity* is their distinguishing attribute, with an absence of power. At the bar, in the pulpit, and in the senate, the same distinction prevails. Many members of the learned professions display great felicity of illustration, and fluency of elocution, surprising us with the quickness of their parts, who, nevertheless, are felt to be neither impressive nor profound. They possess acuteness without power, and ingenuity without comprehensiveness and depth of understanding. This also proceeds from activity with little vigor. There are other public speakers, again, who open heavily in debate, their faculties acting slowly, but deeply, like the first heave of a mountain-wave. Their words fall like minute-guns upon the ear, and to the superficial they appear about to terminate ere they have begun their efforts. But even their first accent is one of power, it rouses and arrests attention; their very pauses are expressive, and indicate gathering energy to be embodied in the sentence that is to come. When fairly animated, they are impetuous as the torrent, brilliant as the lightning's beam, and overwhelm and take possession of feebler minds, impressing them irresistibly with a feeling of gigantic power.

ACTIVITY means the *rapidity* with which the faculties may be manifested. The largest organs in each head have the greatest, and the smallest the least, tendency to natural activity.

The temperaments also indicate activity. The nervous is the most active, next the sanguine, then the bilious, while the lymphatic is characterised by inactivity.

In a lymphatic brain, great size may be present, and few manifestations occur through inactivity; but present an external stimulus, and the power will appear. If the brain be very small, any degree of stimulus may be presented external or internal, and great power will not be manifested.

A certain combination in size, namely, Combativeness, Destructiveness, Hope, Firmness, Acquisitiveness, and Love of Approbation, all large, is favorable to general activity; and another combination, namely Combativeness, Destructiveness, Firmness, and Acquisitiveness, small or moderate, with Hope, Veneration, and Benevolence, all large, is frequently attended with inactivity in the mental character; but the activity of the whole brain is constitutionally greater in some individuals than in others, as already explained. It may even happen, that, in the same individual, one organ is naturally more active than another, without reference to size; just as the optic nerve is sometimes more irritable than the auditory; but this is by no means a common occurrence. Exercise greatly increases activity; and hence arise the benefits of education. Dr. Spurzheim thinks that "long fibres produce more activity, and thick fibres more intensity."

The doctrine that size is a measure of power, is not to be held as implying, that power is the only, or even the most valuable quality, which a mind in all circumstances can possess. To drag artillery over a mountain, or a ponderous car through the streets of London, we would prefer an elephant, or a horse of great size and muscular power; while, for graceful motion, agility and nimbleness, we would select an Arabian palfrey. In like manner, to lead men in gigantic and difficult enterprises,—to command by greatness, in perilous times, when law is trampled under foot,—to call forth the energies of a people, and direct them against a tyrant at home, or an alliance of tyrants abroad,—to stamp the impress of a single mind upon a nation,—to infuse strength into thoughts, and depth into feelings, which shall command the homage of enlightened men in every age,—in short, to be a Bruce, Buonaparte, Luther, Knox, Demosthenes, Shakspeare or Milton, a large brain is indispensably requisite; but to display skill, enterprise, and fidelity, in the various professions of civil life,—to cultivate, with success, the less arduous branches of philosophy,—to excel in acuteness, taste, and felicity of expression,— to acquire extensive erudition and refined manners, a brain of a moderate size is perhaps more suitable than one that is very large; for wherever the energy is intense, it is rare that delicacy, refinement, and taste, are present in an equal degree. Individuals possessing moderate-sized brains easily find their proper sphere, and enjoy in it scope for all their energy. In ordinary circumstances, they distinguish themselves; but sink when difficulties accumulate around them. Persons with large brains, on the other hand, do not readily attain their appropriate place; common occurrences do not rouse or call them forth; and, while unknown, they are not trusted with great undertakings. Often, therefore, such men pine and die in obscurity. When, however, they attain their proper element, they feel conscious greatness, and they glory in the expansion of their powers. Their mental energies rise in proportion to the obstacles to be surmounted, and blaze forth in all the magnificence of genius on occasions when feebler minds would expire in despair.

The term Faculty is used to denote a particular power of feeling or thinking, connected with a particular part of the brain. Phrenologists consider Man by himself, and also compare him with other animals. When the lower animals manifest the same propensities and feelings as those displayed by man, the faculties which produce them are held to be common to both. A faculty is admitted as primitive,

1. Which exists in one kind of animals, and not in another;

2. Which varies in the two sexes of the same species;

3. Which is not proportionate to the other faculties of the same individuals;

4. Which does not manifest itself simultaneously with the other faculties; that is, which appears and disappears earlier or later in life than other faculties;

5. Which may act or rest singly;

6. Which is propagated in a distinct manner from parents to children; and,

7. Which may singly preserve its proper state of health or disease.*

As phrenological observation establishes the existence of a plurality of mental faculties, each connected with a particular part of the brain, the question occurs, Is the mind simple, or an aggregate of separate powers?† It is extremely difficult to give a satisfactory answer to this inquiry. Looking at the facts presented to us by observation, the most obvious inference seems to be, that the mind consists of an aggregate of powers, and that one of them supplies the feeling of personal Identity, or the *I* of Consciousness, to which, as their substance, all the other feelings and capacities bear reference. This view is strongly supported by some of the phenomena of insanity; for patients are sometimes insane in the feeling of personal identity, and in no other faculty of the mind. Such individuals lose all consciousness of their past and proper personality, and imagine themselves different persons altogether; while, with the exception of this erroneous impression, they feel and think correctly. Under the head of Memory, in a subsequent part of this work, an abstract will be found of a case of divided personality, occurring through disease, reported by Dr. Dyce of Aberdeen, to Dr. Henry Dewar, and by him published in the Transactions of the Royal Society of Edinburgh. A similar case is stated in "The Medical Repository," communicated by Dr. Mitchell to the Reverend Dr. Nott, dated January 1816. "When I was employed," says he, early in December 1815, with several other gentlemen, in doing the duty of a visiter to the United States Military Academy at West Point, a very extraordinary case of Double Consciousness in a woman, was related to me by one of the professors. Major Elicott, who so worthily occupies the mathematical chair in that seminary, vouched for the correctness of the following narrative, the subject of which is related to him by blood, and an inhabitant of one of the western counties of Pennsylvania:—Miss R——— possessed, naturally, a very good constitution, and arrived at adult age without having it impaired by disease. She possessed an excellent capacity, and enjoyed fair opportunities to acquire knowledge. Besides the domestic arts and social attainments, she had improved her mind by reading and conversation, and was well versed in penmanship. Her memory was capacious, and stored with a copious stock of ideas. Unexpectedly, and without any forewarning, she fell into a profound sleep, which continued several hours beyond the ordinary term. On waking, she was discovered to have lost every trait of acquired knowledge. Her memory was *tabula rasa*,—all vestiges, both of words and things, were obliterated and gone. It was found necessary for her to learn every thing again. She even acquired, by new efforts, the art of spelling, reading, writing, and calculating, and gradually became acquainted with the persons and objects around, like a being for the first time brought into the world. In these exercises she made considerable proficiency. But, after a few months, another fit of somnolency invaded her. On rousing from it, she found herself restored to the state she was in before the first paroxysm; but was wholly ignorant of every event and occurrence that had befallen her afterwards. The former condition of her existence, she now calls the Old State, and the latter the New State; and she is as unconscious of her double character as two distinct persons are of their respective natures. For example, in her old state, she possesses all her original knowledge; in her new state only what she acquired since. If a gentleman or lady be introduced to her in the old state, and *vice versa*, and so of all other matters, to know them satisfactorily she must learn them in both states. In the old state, she possesses fine powers of penmanship, while in the new, she writes a poor awkward hand, having not had time or means to become expert. During four years and upwards, she has undergone periodical transitions from one of these states to the other. The alterations are always consequent upon a long and sound sleep. Both the lady and her family are now capable of conducting the affair without embarrassment. By simply knowing whether she is in the old or new state, they regulate the intercourse, and govern themselves accordingly. A history of her curious case is drawing up by the Reverend Timothy Aldin of Meadville." Such cases as the foregoing, have led some persons to the inference, that the feeling of personal Identity is a primitive mental affection, connected with a particular organ, and hence liable separately to disease; and because we have ascertained that each of the other primitive feelings and intellectual powers is also manifested by a separate organ, the mind has appeared to them to consist of an aggregate of powers acting together. This view corresponds with the apprehension of mankind in general, for popular language is framed on the principle of the *I* of Consciousness being distinct from the other mental affections. We speak of *evil thoughts* intruding themselves into *our* mind; and of *our* having *strong desires* which *we* forbear to indulge. In such expressions, the *our* and *we* seem to mean the principle of personal identity; and the evil thoughts and desires appear to be regarded as affections of that principle, originating in sources distinct from it, and different from one another.

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* Phrenology by Dr. Spurzheim, p. 132.

† See Phren. Jour. vol. i. p. 205

The more general opinion of philosophers is, that the mind is a simple and indivisible substance, and that the several faculties are merely different states of it. This view is espoused by my excellent friend the Reverend Dr. David Welsh, Professor of Church History in the University of Edinburgh, who successfully shows, that it is consistent with the phrenological doctrine of a plurality of organs. "The leading doctrine," says he, "of Phrenology is, that different portions or organs of the brain are connected with the primitive feelings of the mind. The truth of this position can obviously be ascertained only by observation. But taking it for granted that it is true, it may be asked, how it can be reconciled with the great principle to which so frequent reference has been made, that the powers, thoughts, and feelings of the mind are not different from the mind, but merely the mind itself existing in different states ?

"It requires but little reflection to be satisfied that the introduction of cerebral organs does not in any degree affect Dr. Brown's leading principle. The cerebral organs are not the mind—nor is any state of these organs the mind. The mind we believe to be a simple and indivisible substance. And the only difference that the doctrines of Phrenology introduce in regard to Dr. Brown's principle is, that, instead of the feelings and thoughts being merely the relations of the simple substance *mind*, to its own former states or to external objects, they are the relations of the simple substance *mind* to certain portions of the encephalon.

"In looking upon any object—as snow—we have the notion of a certain color. Now, the notion is not in the snow but in the mind. That is, the notion of color is the mind existing in a certain relation to an external object. But it is allowed on all hands, that there is an intervening step between the snow and the mind. There is an affection of the optic nerve. The notion of color, then, is the mind existing in a certain relation to the optic nerve. It will be conceded, that this does not alter the question as to the simplicity of the mind. And if this is conceded, it is abundantly obvious, that another step in the process might be conceived, without taking away from the simplicity of the immaterial part, and that, instead of an affection of the optic nerve being the immediate antecedent of the notion of color, it might be a particular portion of the encephalon. As the notion of color, upon this supposition, is a relation of the mind to the organ of color, it follows, that, if that organ were changed in any respect, the state of the mind would also be changed. Thus, if it were larger, or of a finer structure, or more active, the perception of color would be more delicate, or quick, or pleasing. The same remarks might be extended to all the organs. Where the organ of Causality is large, as in the case of Dr. Brown himself, then there will be a tendency to reason; which tendency is a state of the mind in relation to a material organ, which state would have been different had the organ been different.

"A multitude of organs may all be affecting the mind at the same instant, and in that case a variety of feelings will be experienced. But still the mind is simple, and it is only its relations to these different organs that are complex.

"When we say, then, that when we have any power, as, for example, of reasoning, we are not to suppose that the power is different from the mind. There is a material organ which is separate from the mind, but the perception of relation is a state wholly mental. One state of the organ may give the perception of relation, another the desire to perceive or discover it; but the perception and desire are both attributes, not of matter but of mind.—The effect of the organ being large or small, active or inactive, in different individuals, or upon the same individual at different times, is the subject to which I alluded in the chapter on Cause and Effect, as that which Dr. Brown had not considered."

It is not necessary in studying Phrenology to decide which of these views is the correct interpretation of nature, because the effects of the organs on the mind is the same, whichever of them be adopted. Holding the mind to consist of an aggregate of powers,—then each acts by means of a particular organ, and is manifested with a degree of energy in proportion to its size. Viewing it as a simple substance, capable of existing in a variety of states, it enters into each state by means of a separate organ: when the organs are spontaneously active, they induce their relative states; without their influence these cannot take place: when they are large, the states are excited vigorously; when they are small, they exist feebly. The reader may therefore adopt whichever theory appears to himself preferable. In the following pages the faculties will be treated of as distinct mental powers, connected with separate organs, because this view enables me to bring out the doctrine more simply and luminously, than by considering them as merely particular states of the general power—the Mind; and this language, moreover, is correct even on the latter hypothesis, because, according to this view, when the organ of Causality, for example, is largely possessed, the individual is capable of reasoning logically and acutely; of which mental acts he is incapable, when that organ is greatly deficient. The word *faculty* or *power*, therefore, is used to express the quality which is possessed in the one, and not in the other case, and which, being *active*, is legitimately designated, and universally recognised, by either of these terms.

"It has occurred to me," continues Dr. Welsh, "that another difficulty of a metaphysical nature may suggest itself in regard to the principles of Phrenology. It may be asked, What is the soul when deprived of the cerebral organs? But the system of Dr. Brown affords us no more light upon this point, than the system of Dr. Gall. Indeed, a passage which I have quoted from his Lectures shows, that he considered that those who engaged in such inquiries were ignorant of the limits of our faculties. It is only experience that can teach us in what state the soul exists when separated from the body. And in this sense the precept of the poet holds equally in a scientific and in a religious point of view,

"Wait the great teacher Death, and God adore."

DIVISION OF THE FACULTIES.

Dr. Spurzheim divides the faculties into two orders, **Feelings** and **Intellect**, or into *affective* and *intellectul* faculties. The feelings are subdivided into two genera, **Propensities** and **Sentiments**. He applies the name *propensities* to indicate internal impulses, which invite only to certain actions; and *Sentiments* designate other feelings, not limited to inclination alone, but which have an emotion of a peculiar kind superadded. Acquisitiveness, for example, is a mere impulse to acquire; Veneration gives a tendency to worship, accompanied with a particular emotion, which latter quality is the reason of its being denominated a Sentiment.

The second order of faculties makes us acquainted with objects which exist, their qualities and relations; and they are called *intellectual.* They are subdivided by Dr. Spurzheim into four genera. The first includes the external senses and voluntary motion; the second, those internal powers which perceive existence; or make man and animals acquainted with external objects, and their physical qualities; and the third, the powers which perceive the relations of external objects. These three genera are named *perceptive faculties.* The fourth genus comprises the faculties which act on all the other powers, which compare, judge, and discriminate; and these are named *reflective* faculties.

The names of the faculties employed in this work are, with few exceptions, those suggested by Dr. Spurzheim. To designate *propensity*, the termination *ive* is added to a root or fundamental word, and indicates *the quality of producing;* and *ness*, the abstract state, as Destructiveness. The termination *ous*, characterizes a *sentiment*, as Cautious, Conscientious. To these is added *ness*, to express the abstract state, as Cautiousness, Conscientiousness. The names of the *intellectual* faculties are easily understood, and do not require any particular explanation.

Considerable difficulty attends the arrangement of the faculties and organs. In the first and second editions of this work, they were arranged and numbered according to the order adopted in Dr. Spurzheim's New Physiognomical System, published in 1815. The principle of that arrangement was, as far as possible, philosophical. The organs common to man and the lower animals came first, beginning with the lowest, and ascending. The organs of the moral sentiments were next treated of; and, lastly, the organs of intellect. Since 1815, the great divisions of this classification have been retained, but repeated alterations have been made by Dr. Spurzheim in the arrangement of the details. It appears impossible to arrive at a correct classification until all the organs, and also the primitive faculty or ultimate function of each, shall be definitely ascertained, which is not at present the case. Till this end shall be accomplished, every interim arrangement will be in danger of being overturned by subsequent discoveries. In the mean time, however, for the sake of uniformity, I adopt Dr. Spurzheim's last order of arrangement. During his visit to Edinburgh in 1828, he demonstrated the anatomy of the brain, and traced out the connexion between the organs in a manner so clear and satisfactory, that the basis of his arrangement appeared founded in nature. Dr. Gall seems not to have adopted any philosophical principle of classification; but it is proper that his names and order should be known. I shall, therefore, add to the present work a table of his order.

In the case of many of the organs, observations have been made to such an extent, that the functions are held to be *ascertained;* and in regard to others, where the observations have been fewer, the functions are stated as *probable.* There is no difference of opinion among phrenologists in regard to the kind of manifestations which accompany the organs set down as established; their differences touch only the result of the metaphysical analysis of the feelings and intellectual powers, and the order of their arrangement.

I shall notice briefly the history of the discovery of each organ, and state a few cases in illustration of its function: but the reader is respectfully informed, that I do not pretend to bring forward the evidence on which Phrenology is founded. I beg to refer those readers who are fond of perusing cases, to Dr. Gall's quarto work, in 4 volumes, entitled, "Physiologie du Cerveau;" to Dr. Spurzheim's work, "Phrenology;" to the "Transactions of the Phrenological Society;" and to the "Phrenological Journal and Miscellany." Those persons who desire philosophical conviction, are requested to resort directly to *Nature*, which is always within their reach; for self-conviction can be obtained only by self-observation.

NATURAL LANGUAGE OF THE FACULTIES.

Drs. Gall and Spurzheim have investigated the laws which determine the natural language of each faculty, and their exposition of them is highly interesting and instructive. The leading principle is, that the motions are always in the direction of the seat of the organs; Self-Esteem, for instance, produces an attitude in which the head and body are held high and reclining backward; Cautiousness carries the head backward and to the side; Veneration, upward and forward; and so on.

Each organ when *predominantly powerful and active* produces these motions and attitudes. It also gives a peculiar expression to the voice and features; thus Destructiveness communicates to the voice a hard ringing quality, and to the countenance a dark harsh expression; while Love of Approbation gives a flattering pleasing tone to the voice and gracious smiles to the face. The modes of expression attached to each faculty being natural are universal; and are understood in all countries and all ages. They are the foundations of pantomime; and also of expression in painting and sculpture. The knowledge of them renders Physiognomy scientific; which, without this knowledge, is a mere empirical art leading as often to erroneous as to sound conclusions.

Order I. — FEELINGS.

Genus I.—PROPENSITIES.

The faculties falling under this genus do not form ideas, their sole function is to produce a propensity of a specific kind. These faculties are common to Man with Animals.

1. — AMATIVENESS.

The cerebellum is the organ of this propensity, and it is situated between the mastoid process on each side, and the projecting point in the middle of the transverse ridge of the occipital bone. The size is indicated during life by the thickness of the neck at these parts,* or between the ears. In some individuals the lobes of the cerebellum descend downwards, enlarging the base of the occipital bone, rather than increasing its expansion between the ears. In such cases the projection may be felt by the hand, if pressed firmly on the neck.

There is nearly half an inch of space between the cerebellum and the commencement of the posterior lobe of the brain, at the insertion of what is called the Tentorium.

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* Partes genitales, sive testes hominibus et fœminis uterus, propensionem ad venerem excitare nequeunt. Nam in pueris veneris stimulus seminis secretioni sæpè antecedit. Plures eunuchi, quanquam testibus privati, hanc inclinationem conservant. Sunt etiam fœminæ quæ sine utero natæ, hunc stimulum manifestant. Hinc quidam ex doctrinæ nostræ inimicis, harum rerum minime inscii, seminis præsentiam in sanguine contendunt, et hanc causam sufficientem existimant. Attamen argumenta hujus generis verâ physiologiâ longè absunt, et vix citatione digna videntur. Nonnulli etiam hujus inclinationis causam in liquore prostatico quærunt; sed in senibus aliquando fluidi prostatici secretio, sine ulla veneris inclinatione, copiosissima est.—*Spurzheim's Phrenology*, p. 148.

SMALL AMATIVENESS.

LARGE AMATIVENESS.

The Tentorium is a strong membrane, which separates the cerebellum from the brain; in animals which leap, as the cat and tiger, the separation is produced by a thin plate of bone. The cerebellum is, however, connected with the brain; for its fibres originate in the *corpora restiformia*, from which also the organs of the other animal propensities arise. Certain fibres originating in that source, after passing through the optic *thalami*, expand into the organs of Philoprogenitiveness, Adhesiveness, Combativeness, Destructiveness, &c. The nerves of sight can be traced into the *nates*, lying very near the same parts; while the nerves of hearing spring from the medullary streaks on the surface of the fourth ventricle, lying immediately under the cerebellum. These arrangements of structure correspond with the facts, that the eyes express more powerfully than the other senses, the passion of love; that abuses of this propensity produce blindness and deafness; and, that this feeling frequently excites Adhesiveness, Combativeness, and Destructiveness, into vivid action, rendering attachment irresistibly strong, and inspiring even females, who, in ordinary circumstances, are timid and retiring, with courage and determination when under its influence. The cerebellum consists of three portions, a central and two lateral. The central is in direct communication with the *corpora restiformia*, and the two lateral portions are brought into communication with each other by the *pons Varolii*.

Dr. Gall was led to the discovery of this organ in the following manner. He was physician to a widow of irreproachable character, who was seized with nervous affections, to which succeeded severe nymphomania. In the violence of a paroxysm, he supported her head, and was struck with the large size and heat of the neck. She stated, that heat and tension of these parts always preceded a paroxysm. He followed out, by numerous observations, the idea suggested by this occurrence, of connexion betwixt the propensity and the cerebellum, and he soon established the point to his own satisfaction.

The faculty gives rise to the sexual feeling. In new-born children, the cerebellum is the least developed of all the cerebral parts. At this period, the upper and posterior part of the neck, corresponding to the small cerebellum, appears attached almost to the middle of the base of the skull. The cerebellum is then to the brain as one to thirteen, fifteen or twenty. In adults, it is as one to six, seven or eight. It attains its full size between the age of eighteen and twenty-six. The neck then appears greatly more expanded behind. The cerebellum is less in females, in general, than in males. In old age it frequently diminishes. There is no constant proportion betwixt the brain and it in all individuals, just as there is no invariable proportion betwixt this feeling and the other powers of the mind. Sometimes, however, the cerebellum is largely developed before the age of puberty. This was the case in a child of three years of age, in a boy of five, and in one of twelve; and they all manifested the feeling strongly. In the cast of the skull of Dr. Hette, sold in the shops, the developement is small, and the feeling corresponded. In the casts of Mitchell, Dean, and Raphael, it is very large, and the manifestations were in proportion. Farther evidence of the functions of this organ will be found in Dr. Gall's "Physiologie du Cerveau;" and several cases are mentioned in the following works, viz. "Journal of Pathological Observations kept at the Hospital of the Ecole de Médécine, No. 108, 15th July 1817," case of *Jean Michel Brigaud*; "Journal of the Hôtel Dieu," case of *Florat*, 19th March 1819; and of a woman, 11th November 1818; "Wepferus, Historiæ apoplecticorum," edit. 1724, page 487; "Philosophical Transactions," No. 228, case by Dr. Tyson; "Mémoires de Chirurgie Militaire, et Campagnes," by Baron Larrey, vol. ii. p. 150, vol. iii. p. 262; "Serres on Apoplexy;" "Richerand's Elements of Physiology," pp. 379, 380, Kerrison's Translation; "Dr. Spurzheim's Phrenology," p. 148.

"It is impossible," says Dr. Spurzheim, "to unite a greater number of proofs in demonstration of any natural truth, than may be presented to determine the function of the cerebellum;" and in this I fully agree with him. Those who have not read Dr. Gall's section on this organ, can form no adequate conception of the force of the evidence which he has collected.

M. Flourens has lately performed some experiments on the lower animals, chiefly by inflicting injuries on their cerebella, and contends that these experiments show that the cerebellum serves for the regulation of muscular motion. "On removing the cerebellum," says he, "the animal loses the power of executing combined movements." Magendie performed similar experiments on the cerebellum, and found that they occasion only an *irresistible tendency in the animal to run, walk, or swim, backwards.* He made experiments, also, on the *corpora striata* and *tubercula quadrigemina*, with the following results: When one part of these was cut, the animal *rolled;* when another, it *went forward, and extended its head and extremities;* when another, it *bent all these:* so that, according to this mode of determining the cerebral functions, these parts of the brain possess an equal claim with the cerebellum, to be regarded as the regulators of motion. The fact is, that all parts of the nervous system are so intimately connected, that the infliction of injuries is not the way to determine the functions of any, even its least important parts.

The great size of the cerebellum, however,—the circumstance of its lateral portions not bearing the same relation to the middle part in all animals,—and also the results of some late experiments, have suggested the notion that it may not be a single organ, but that, although Amativeness is unquestionably connected with the largest portion of it, other functions may be connected with the other parts. This seems not improbable, but as we have no direct evidence in proof of the fact, or in illustration of the nature of these supposed functions, it is unnecessary to do more than announce the proposition as one worthy of investigation. If I might hazard a conjecture, founded on such facts as are known, I would presume the middle portion to be the organ of Amativeness, and the two lateral portions to be those of motion. The middle portion springs from the same roots as the organs of the other propensities, while the lateral portion by means of the *pons varolii* are placed in connexion with the *corpora pyramidalia*, from which originate the organs of intellect that preside over motion. Besides, the anterior columns of the spinal marrow are the roots of the nerves of motion, and seem to be a continuation of the *corpora pyramidalia.*

Mr. Scott, in an excellent essay on the influence of this propensity on the higher sentiments and intellect,* observes, that it has been regarded by some individuals, as almost synonymous with pollution; and the notion has been entertained, that it cannot be even approached without defilement. This mistake has arisen, from attention being directed too exclusively to the abuses of the propensity. Like every thing that forms part of the system of nature, it bears the stamp of wisdom and excellence in itself, although liable to abuse. It exerts a quiet but effectual influence in the general intercourse between the sexes, giving rise in each to a sort of kindly interest in all that concerns the other. This disposition to mutual kindness between the sexes does not arise from Benevolence or Adhesiveness, or any other sentiment or propensity alone; because, if such were its sources, it would have an equal effect in the intercourse of the individuals of each sex among themselves, which it has not. "In this quiet and unobtrusive state of the feeling," says Mr. Scott, "there is nothing in the least gross or offensive to the most sensitive delicacy. So far the contrary, that the want of some feeling of this sort is regarded, wherever it appears, as a very palpable defect, and a most unamiable trait in the character. It softens all the proud, irascible, and antisocial principles of our nature, in every thing which regards that sex which is the object of it; and it increases the activity and force of all the kindly and benevolent affections. This explains many facts which appear in the mutual regards of the sexes towards each other. Men are, generally speaking, more generous and kind, more benevolent and charitable, towards women, than they are to men, or than women are to one another." This faculty also inspires the poet and dramatist in compositions on the passion of Love; and it exerts a very powerful influence over human conduct. Dr. Spurzheim observes, that individuals in whom this organ is very large, ought not to be dedicated to the profession of religion, in countries where chastity for life is required of the clergy.

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* Phrenological Journal, No. vii. p. 392.

The abuses of this propensity are the sources of innumerable evils in life; and, as the organ and feeling exist, and produce an influence on the mind, independently of external communication, Dr. Spurzheim suggests the propriety of instructing young persons in the consequences of its improper indulgence, as preferable to keeping them in "a state of ignorance that may provoke a fatal curiosity, compromising in the end their own and their descendants' bodily and mental constitution."

The organ is established.

2.—PHILOPROGENITIVENESS.

The attachment of the inferior animals to their young has often been the subject of admiration. In them it is attributed to instinct. Instinct means an original propensity, impelling the animal endowed with it to act in a certain way, without intention or purpose. Is the attachment of human beings to offspring, the consequence of a similar innate feeling, or is it the result of reason, or a modification of benevolence, or of other feelings? That it does not spring from reflection is abundantly evident. Reason only investigates causes and effects, and decides on a comparison of facts. The mother, while she smiles with ineffable joy on her tender offspring, does not argue herself into the delightful emotion. The excitement is instantaneous; the object requires only to be presented to her eye or imagination, and the whole impetus of parental love stirs the mind. Hence a feeling or propensity is obviously

ADAH.
Where were then the joys,
The mother's joys of watching, nourishing,
And loving him? Soft! He awakes. Sweet Enoch.
(*She goes to the child.*)
Oh Cain! Look on him; see how full of life,
Of strength, of bloom, of beauty, and of joy.
How like to me,—how like to thee, when gentle,
For *then* we are *all* alike: is 't not so, CAIN?
Mother, and Sire, and Son, our features are
Reflected in each other.
Look! how he laughs, and stretches out his arms,
And opens wide his blue eyes upon thine,
To hail his father; while his little form
Flutters as winged with joy. Talk not of pain!
The childless cherubs well might envy thee
The pleasures of a parent! Bless him, CAIN,
As yet he hath no words to thank thee, but
His heart will, and thine own too.
Cain, Act III. Scene 1.

The organ may be verified in the easiest manner by any person who chooses to observe nature. It is one of the most conspicuous and easily distinguished in the head, particularly in the human species; and the manifestations may be recognised with equal facility. Those who possess the feeling in a strong degree, show it in every word and look when children are concerned; and these, again, by a reciprocal tact, or, as it is expressed by the Author of Waverley, by a kind of "free-masonry," discover at once persons with whom they may be familiar, and use all manner of freedoms. It is common, when such an individual appears among them, to see him welcomed with a shout of delight. Other individuals, again, feel the most marked indifference towards children, and are unable to conceal it, when betrayed into their company. Romping disconcerts them, and having no sympathy with children's pranks and prattle, they look on them as the greatest annoyances. The same novelist justly remarks, that if such persons sometimes make advances to children, for the purpose of recommending themselves to the parents, their awkward attempts are instinctively recognised, and fail in attracting reciprocal attention. On examining the heads of two persons thus differently constituted, a promimade in this region, he was aware that he was not to look for the seat of any superior intellectual or moral faculty. He repeatedly revolved in his mind all the feelings manifested by the monkey tribe, so far as known to him. At last, in one of those favorable moments, when a lucky thought sometimes does more to elicit truth than years of labor and reflection, it suddenly occurred to him, in the midst of a lecture, that one of the most remarkable characteristics of monkeys, is an extreme ardor of affection for their young. This quality had been noticed in them by the most distinguished naturalists; and persons who have resided in countries where monkeys are common, have also observed it, and remarked, that it led them to bestow caresses even on the young of the human species, especially Negro children, when these were so unlucky as to fall in their way. The thought flashed upon his mind that this might be the feeling or quality of which he was in search. Impatient to put this conclusion to the test, by a comparison of all the male with the female skulls of animals in his extensive collection, he begged his hearers to go away, and leave him to his researches;—and on this examination he found, that there existed, in fact, the same difference between the male and female skull of the lower animals in general, which he had observed between the male and the female skull in the human species. This seemed a confirmation of the idea, that the quality of which this cerebral part is the organ, is that of affection for offspring —which, he had already remarked, was possessed in a greater degree by the females of the animal tribes, than by the males. The inference appeared to him more plausible, from the circumstance, that this organ was placed in close vicinity to that of the instinct of propagation. Many subsequent observations established the conclusion.*

The faculty produces the instinctive love of offspring and delight in children.

The feeling is beautifully represented in the following lines of Lord Byron:

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* Gall Sur les Fonctions du Cerveau. Edit. 1823. vol. iii.—Phren. Journ. vol. ii. p. 23.

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It is a remarkable ordination of nature, that the direction of this feeling bears a reference to the weakness and helplessness of its objects, rather than to any other of their physical or moral qualities. The mother doats with fondest delight on the infant in the first months of its existence, when it presents fewest attractions to other individuals; and her solicitude and affection are bestowed longest and most intensely on the feeblest member of her family. On this principle, the youngest is the reigning favorite, unless there be some sickly being of maturer age, who then shares with it the maternal sympathies. The primitive function of the faculty seems to be to inspire with an interest in the helplessness of childhood; but it gives also a softness of manner, in treating the feeble and the delicate even in advanced life; and persons in whom this organ is large in combination with Benevolence, are better fitted for the duties of a sick chamber, than those in whom Philoprogenitiveness is small. The natural language of the faculty is soft, tender, and condescending. It is essential to a successful teacher of children. Individuals in whom the organ is deficient, have little sympathy with the feelings of the youthful mind, and their tones and manner of communicating instruction repel, instead of engaging, the affections of the scholar. This is the cause why some persons, whose manner, in intercourse with their equals, is unexceptionable, are nevertheless greatly disliked as teachers; and children are generally in the right in their antipathies, although their parents and guardians, judging by their own feelings, imagine them actuated altogether by caprice.

It has been remarked by Mr. Scott, that the fondness which unmarried females, or married ladies who have no children, sometimes lavish "on animals, generally of the smaller and more delicate kinds, whom they nurse and pamper with a degree of devotedness and affection, which can be compared only to that of a mother for her children," probably has its origin in this faculty. The feeling seems the same, its objects only being different; and, instead of overwhelming such individuals with ridicule, they deserve our forbearance at least, if not respect, as "they are merely following the bent of a strong natural propensity, implanted in them for the wisest purposes, and which, in more favorable circumstances, would have rendered them affectionate mothers, and excellent mistresses of families."

This propensity furnishes the spirit of lullabies, and inspires the poet and dramatist in many of their representations. Wordsworth manifests it strongly, and some of the faults of his manner are clearly attributable to an excess of its influence. It characterizes the Lake school of poetry in general.

The feeling produced by this faculty is so intense and delightful, that no other is more liable to abuse. When too energetic, and not regulated by judgment, it leads to pampering and spoiling children; to irrational anxieties regarding them, and sometimes to the most extravagant conceit of their supposed excellences. When misapplied, it defeats the object of its institution; for, instead of conducing to the protection and happiness of children, it renders them highly miserable. When the organ is deficient, indifference and regardlessness about offspring are the consequences. Children are then felt as a heavy burden; they are abandoned to the care of menials, or altogether neglected, and left to encounter the perils and distresses incident to tender age, without solace or protection. Instances have been known (as in the case of the Countess of Macclesfield, mother of the poet Savage,) of mothers who conceived an unaccountable and seemingly causeless hatred against their own offspring, and who persecuted them with relentless severity. Dr. Gall knew, at Vienna, a lady, who loved her husband tenderly, and who managed the concerns of her household with intelligence and activity, but who sent from home, as soon as they saw the light, all the nine children to whom she successively gave birth, and for years never asked to see them. She herself was somewhat ashamed of this indifference, and could not account for it to herself. To quiet her conscience, she insisted upon her husband seeing them every day, and taking a charge of their education. From deficiency of the organ also, combined with other feelings in a strong degree, probably arises the cruelty of such barbarous mothers as Isabel of Bavaria, of whom history relates that she stifled all the sentiments of affection due to her children.

Among twenty-nine infanticides whom Drs. Gall and Spurzheim had occasion to examine, the organ of the Love of Children was very feebly developed in twenty-five. Dr. Gall has oftener than once made the remark, that it is not this defect in developement alone which determines a mother to child-murder; but that individuals defective in this respect, yield sooner than others to those unfavorable circumstances which lead to the crime, because they are not endowed with that profound feeling which, in the heart of a good mother, will rise victorious over every such temptation.

In selecting a nurse or child's maid, the phrenologist will be directed by the developement of this organ. This application of the science, when mentioned to those who have not studied the subject, generally excites a smile; and certainly, if the size of the part of the brain in question were no indication of instinctive affection for children, no test for qualification could be more justly deserving of ridicule than the one now recommended; but, on the other hand, if the organ be an unerring index of this disposition (which it is, otherwise all we are now considering is a delusion,) no weakness can be greater than that which would fear to appeal to it, because it might provoke a smile in those who are ignorant that nature has established the function.

The head of the male is generally broader and rounder, and that of the female longer and narrower, when contrasted with each other. This arises partly from the organ of Philoprogenitiveness being more developed in the female head, and causing the occiput to project. The portion of brain placed in the occiput is greater in women than in men, though the entire brain of the woman is smaller than that of the man. This difference is observable in the fœtal skull of the two sexes; and is conspicuous in boys and girls. The manifestations even in the earliest periods of life correspond; for the girl shows attachment to dolls and infants, while the boy is addicted to romping and athletic sports. A curious practical example of the difference in this feeling betwixt males and females in general occurs in Morier's Travels in Persia. "The surgeons of the Embassy," says he, "endeavored to introduce vaccination among the Persians, and their efforts at first were very successful; but on a sudden its progress was checked by the government itself. Several of the King's Ferashes were placed at the gate of the Ambassador's hotel, nominally as a mark of attention to his Excellency, but really to stop all women from going to our surgeons. They said that if the people wanted their children to be vaccinated, the *fathers*, and not the *mothers*, were to take them to the surgeons, by which means the eagerness for vaccination was stopped; for we soon discovered that the *males* did not feel one-half the same anxiety for their offspring as the *women*."—*Second Journey through Persia*, p. 191.

There are, nevertheless, exceptions to this general rule. Sometimes the occipital part of the brain is feebly developed in a woman, and has acquired a very large size in a man. In such cases, the dispositions will be found to correspond to the developement. Dr. Gall conjectures, that in these cases the woman will be found to resemble her father, and the man his mother, unless this peculiar conformation should be hereditary in the family. There are men thus organized who have a particular affection for children, and in whom the organs of Amativeness and Adhesiveness are small,—who bear the loss of an affectionate wife, with a resignation which appears very philosophic, while the death of an infant plunges them into a deep and lasting grief. The want of children is with such men a constant source of uneasiness, and often this circumstance causes them to treat with unkindness a partner exceedingly estimable in all other respects.

Dr. Gall observes, that we find this organ more developed in some mothers than in others. It is generally large in Negroes; and infanticide is a crime almost unknown among that variety of the species. Persons well acquainted with their character assure us, that they never heard of such a crime committed by a black. The organ is commonly well developed even in male Negroes; and we find that Negro men often consent to take charge of children. Travellers report that the Tungusians and the inhabitants of North America are singularly fond of their children. Dr. Gall mentions, that, in the skulls of two Tungusians and a North American Indian, which he had seen at Gottingen in the collection of Professor Blumenbach, this organ was large. Dr. Murray Paterson states, that the Hindoos, both male and female, are highly endowed with this feeling;—it is manifested by them, he says, "in their predilection for domestic quiet; in the happiness they seem to feel when surrounded by their children; in the spirit of their lullabies, and in their frequent and ardent embraces." Out of twelve Hindoo skulls originally in the possession of the Phrenological Society, eleven have this organ largely developed, and only one moderately so, and subsequent additions show the same result.

The feeling in question, so necessary for the preservation and continuance of the species, is found strong in the most savage tribes. The organ is decidedly large, even in the casts of the skulls of the Caribs, unquestionably the most unfavorably organized, in other respects, of all the races of which we possess any knowledge. Out of five casts of Carib skulls in the Phrenological Society's collection, one has the organ very large, three have it large, and the remaining one rather full. This tribe appears, from their cerebral developement, and the accounts of travellers and historians with regard to their manners and character, to be endued with the most brutal ferocity, totally unregulated either by benevolence or intellect; and, unless they possessed an instinctive propensity, prompting them to take care of their children, they would soon become extinct, without the intervention of famine, pestilence, or an exterminating enemy. A satisfactory answer is here afforded to those cavillers, who object that there is no necessity for such a propensity as this, as the feeling of Benevolence alone would be sufficient to prompt parents to bestow the requisite care on their offspring. We have only to point to the Caribs, and say, What reliance could be placed on the benevolence of such beings? And yet they show attachment to their young, and submit to the

inconveniences of rearing them, amidst all the toils, privations, and hardships, that abound in savage life.

This, like the other cerebral organs, is liable to disease; and derangement in the manifestations of the propensity is the consequence. Sometimes the most painful anxiety is felt about children, without any adequate external cause, and this arises from involuntary activity of the organ.

Dr. Andrew Combe attended a woman, while laboring under a temporary alienation of mind, whose constant exclamations during three days, which the fit lasted, were about her children — she imagined that they were in distress, murdered, carried away, exposed to every calamity. On recovery she complained of having a pain in the hind part of her head during the attack, pointing to the situation of Philoprogenitiveness; but she had no other recollection of what had passed. She was altogether unacquainted with Phrenology.

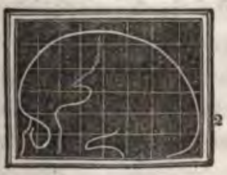
Dr. Gall mentions a case of a woman in the great hospital at Vienna, who was seized with a very peculiar kind of madness— maintaining that she was about to be delivered of six children. He was led, by his previous observations, to conjecture that this hallucination was owing in part to a great developement, and partly to an over-excitement of the organ of Philoprogenitiveness. The patient died, and he mentions that the developement of this organ in her head was quite extraordinary. The posterior lobes of the brain not only overhung the cerebellum more than is usual in females, but were rounded and voluminous in a very remarkable degree. At Paris, Dr. Gall attended a young lady of perfect modesty, who labored under mental disease. She lived in the best society, and went to Vienna accompanied by some most respectable friends. She had hardly arrived, when she ran to all her acquaintances, and announced to them, with the most lively joy and in the openest manner, that she was pregnant. The circumstances of this declaration, and the known character of the lady, were sufficient to lead her friends to conclude her to be insane. In a short time her joy gave place to anguish of mind, and to a mournful and invincible taciturnity. Soon afterwards she died of consumption. In her, also, this organ was extremely developed; and during her life she had been remarkable for her love of children. In the Lunatic Hospital at Amsterdam, Drs. Gall and Spurzheim saw a female patient, who spoke of nothing but of being with child, though no such thing was the case. Her head was small, and the organ of Philoprogenitiveness alone was very largely developed. In another hospital for lunatics, they saw a man who maintained that he was with child of twins. They announced that he ought to have this organ large, and, on examining his head, found it to be so. These cases of the diseased state of the organ, add to the already numerous proofs that this is an original and a special propensity.

Dr. Gall relates, that he has examined, with all the attention in his power, the skulls of birds, from the smallest up to the greatest, and of mammiferous animals, from the shrewmouse to the elephant, and has found throughout, that, in the females, the cerebral part, which corresponds to the organ of Philoprogenitiveness in the human species, is more developed than in the males. He says, that if there had been presented to him, in water, the fresh brains of two adult animals of any species, one male and the other female, he could have distinguished the two sexes. In the male, the cerebellum is larger and the posterior lobes of the brain are smaller. In the female, on the contrary, the cerebellum is smaller, and the posterior lobes, or the convolutions connected with this function, are larger and longer. When these two organs are distinctly marked in the cranium, the two sexes may be distinguished by the simple inspection of the skull. In those species where the sexes differ very much in their regard for their young, the crania differ sometimes so much in their form, that they have been placed in collections as belonging to different varieties of the same species, though in fact they belonged to individuals of the same variety, but of different sexes.

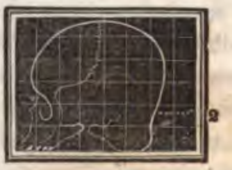
Dr. Gall adduces innumerable facts in support of this proposition; but as these can hardly be made intelligible, without the assistance of plates, I must refer those who wish to pursue this inquiry to his work, to that of Mons. Vimont, and to observations in nature. In pursuing it, the utmost patience and attention are necessary, in order to avoid mistakes. The differences will be found uniformly greatest in those species of which the males pay no regard to their young; but it requires a practised eye and great attention, to discern the difference in classes, of which both the male and female bestow care on their offspring. There is, however, a marked difference in this respect, even in females of the same species, who are fondest of their young. Every cottager knows, and can distinguish in her poultry-yard, particular female fowls, ducks, geese, and turkeys, who cover their eggs and bring up their young ones with the greatest care, while there are others who spoil their nests, and neglect or abandon their young. On comparing the heads of the animals who show these opposite qualities, a decided difference of conformation will be found in the organ of Philoprogenitiveness.—Those, therefore, who wish to form collections with this view, should know not only the natural history of the species, but the peculiar disposition of the individuals selected.

Almost all metaphysical writers admit the Love of Children as an instinctive propensity of the human mind. Phrenological observation points out the organ, and the effects of its different degrees of developement, and also of its healthy and sound state, on the manifestations of the feeling; and to this extent adds to the stock of general knowledge. The following cuts represent the organ large and small: It is marked No. 2.

Large Philoprogenitiveness.



Small Philoprogenitiveness.



It is proper to bear in mind, that these and all other contrasts, are given in this work not to prove Phrenology to be true, but merely to represent the appearances of the organs in different degrees of developement.—Established.

3.—CONCENTRATIVENESS

THE organ is situated immediately above Philoprogenitiveness, and below Self-Esteem. A bony excrescence of the suture sometimes presents itself at this part, which may be mistaken for the organ of Concentrativeness; but the former is much narrower and more pointed than the elevation caused by the latter, when it is large. A cerebral convolution in each hemisphere runs along the top of the corpus callosum, from the organs of Concentrativeness and Self-Esteem, to the intellectual organs in the frontal lobe.

Observation proves that this is a distinct organ, because it is sometimes found large, when the organs of Philoprogenitiveness and Self-Esteem lying below and above it are small, and sometimes small when these are large. Dr. Gall did not discover its function. Dr. Spurzheim observed it to be large in those animals and persons who seemed attached to particular places. "I consider," says he, "in animals, the cerebral part immediately above the organ of Philoprogenitiveness, as the organ of the instinct that prompts them to select a peculiar dwelling, and call it the organ of Inhabitiveness. My attention has been and is still directed to such individuals of the human kind as show a particular disposition in regard to their dwelling-place. Some nations are extremely attached to their country, while others are readily induced to migrate. Some tribes wander about without fixed habitations, while others have a settled home. Mountaineers are commonly much attached to their native soil, and those of them who visit capitals or foreign countries, seem chiefly led by the hope of gaining money enough to return home, and buy a little property, even though the land should be dearer there than elsewhere. I therefore invite the phrenologists, who have an opportunity of visiting various nations particularly fond of their country, to examine the developement of the organ marked No. III., and situated immediately above Philoprogenitiveness. In all civilized nations some individuals have a great predilection for residing in the country. If professional pursuits oblige them to live in town, their endeavor is to collect a fortune as speedily as possible, that they may indulge their leading propensity. I have examined the heads of several individuals of this description, and found the parts in question much developed."—*Phrenology*, p. 169. The function, however, is stated by him as only conjectural. From a number of observations, the faculty appears to me to have a more extensive sphere of action than that assigned to it by Dr. Spurzheim.

Some persons possess a natural consciousness of every thing that goes on in their own minds, in which power others seem to be remarkably deficient. The former can detain their feelings and ideas, and deliberately examine their character and consistency; the latter cannot do this; their minds are like the surface of a mirror, on which each feeling and thought appears like the shadow of a moving object, making a momentary impression, and passing away. They experience great difficulty in detaining their emotions and ideas, so as to examine and compare them; and, in consequence, are little capable of taking systematic views of any subject, and of concentrating their powers to bear on one point. I have observed this organ to be large in the former and small in the latter.

It is difficult to describe in words the manner of a man's mind; but the difference in manifestation is so great between those in whom this organ is small, and those in whom it is large, that, if once comprehended, it will always be recognised. In conversing with some individuals, we find them fall naturally into a connected train of thinking; either dwelling on a subject which interests them, till they have placed it clearly before the mind, or passing naturally and gracefully to a connected topic. Such persons uniformly have this organ large. We meet with others, who, in similar circumstances, never pursue one idea for two consecutive seconds, who shift from topic to topic, without regard to natural connexion, and leave no distinct impression on the mind of the listener; and this happens even with individuals in whom reflection is not deficient; but this organ is in such persons uniformly small. I have met a military officer, with Locality and Concentrativeness both large, who declared that he liked the stirring and diffuse life of a soldier, while engaged in active operations; but that when the army halted, he was equally pleased, and found equal facility in concentrating his mind to reading, writing, or business, and was not annoyed by that dissipation of intellect of which many of his brother officers complained. On the other hand, a gentleman bred to the profession of the law, who has this organ rather deficient, declares that the effort of concentrated thinking is to him painful, although he has excellent Comparison, Causality, and Language.

The question occurs, What is the primitive feeling which gives rise to these phenomena? The first idea that led me to the conclusion, that it is the tendency to concentrate the mind within itself, and to direct its powers in a combined effort to one object, was suggested by a lady, who had remarked this quality in individuals in whom the organ was large. The Rev. David Welsh and Dr. Hoppe of Copenhagen, having been informed of these views, unknown to each other, communicated to me the inference, that the faculty gives a tendency to dwell in a place, or on feelings and ideas, for a length of time, till all, or the majority, of the other faculties are satisfied in regard to them. Both of these phrenologists acquiesce in the manifestations being such as I have described them, when the organ is large or small. An excellent letter on this subject appeared in the Phrenological Journal, vol. iii. p. 193, from the pen of an anonymous author, and contains many valuable remarks on the ultimate principle of the faculty, and I avail myself of it with pleasure. The following are extracts.

"'If we consider the human mind,' says Mr. Hume in his Dissertation on the Passions, 'we shall observe that, with regard to the passions, it is not like a wind-instrument of music, which, in running over all the notes, immediately loses the sound when the breath ceases; but rather resembles a string-instrument, where, after each stroke, the vibrations still retain some sound, which gradually and insensibly decays.' From this he infers, that when an object, which occasions a variety of emotions, is presented to the mind, each impulse will not produce a clear and distinct note of passion, but the one passion will always be mixed and confounded with the other. In his observations on the laws of the suggesting principle, Dr. Thomas Brown remarks the same fact, of permanence or co-existence, as taking place in our mental conceptions in general, when associated with the interest of any mental emotion. 'I look at a volume on my table,' says he, 'it recalls to me the friend from whom I received it,—the remembrance of him suggests to me the conception of his family,—of an evening which I spent with them,—and of various subjects of our conversation. Yet the conception of my friend may continue, mingled indeed with various conceptions, as they rise successively, but still co-existing with them.'* Dr. Brown proceeds, with the felicity and ingenuity which so generally distinguish his writings, to explain how this co-existence of ideas gives us the capacity of prosecuting with steadiness a mental design or plan of thought. His words cannot be abridged without doing injustice to his meaning. 'When we sit down,' he says, 'to study a particular subject, we must have a certain conception, though probably a dim and shadowy one, of the subject itself. To study it, however, is not to have that conception alone, but to have successively various conceptions, its relations to which, we endeavor to trace. The conception of our particular subject, therefore, must, in the very first stage of our progress, suggest some other conception. But this second suggestion, if it alone were present, having various relations of its own, as well as its relation to the subject which suggested it, would probably excite a third conception, which had no reference to the original subject,—and this third a fourth,—and thus a whole series, all equally unrelated to the subject which we wish to study. It would hence seem impossible to think of the same subject even for a single minute. Yet we know that the fact is very different, and that we often occupy whole hours in this manner, without any remarkable deviation from our original design. Innumerable conceptions, indeed, arise during this time, but all more or less intimately related to the subject, by the continued conception of which they have every appearance of being suggested; and if it be allowed that the conception of a particular subject both suggests trains of conceptions, and continues to exist together with the conceptions which it has suggested, every thing for which I contend in the present case is implied in the admission.'

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* Lectures, vol. ii. p. 303.

"I apprehend," says the writer in the Journal, "that this principle suggests the true metaphysical theory. If we conceive that the simple function of this faculty is to give duration or fixity to whatever conceptions or emotions occupy the mind, the various operations ascribed to Concentrativeness will flow from that function as from an elementary principle. In Mr. Combe's work lately published,* the 'primitive feeling,' which gives rise to the phenomena of Concentrativeness, is said to be, 'the tendency to concentrate the mind within itself, and to direct its powers in a combined effort to one object.' This, however, may be considered rather as a description of the operation of the power, than a statement of the primary element to which its phenomena may be traced. If we attend to what passes in our minds when we endeavor to concentrate our thoughts upon a subject, we shall find that we do not attempt any direct coercion on our different faculties, but simply endeavor to seize upon the object of thought, and keep it steadily before the mind. We are all occasionally conscious of ineffectual efforts of attention; if we examine what we do on such occasions, we shall find that it consists in an attempt to think of some subject which is, for the moment, less attractive than some other objects which are the causes of distraction. An effective concentration of the faculties takes place only when the original leading conceptions are of themselves powerful and permanent; and the concentration will be found, consequently, to be most perfect when there is least effort to produce it. We are sensible of this on occasions which may be either painful or pleasant; when a subject, associated with strong emotion, has taken possession of the mind; and when we find ourselves incapable of banishing from our thoughts, even though very desirous of doing so, the train of conceptions which has so strongly concentrated our powers upon itself, and continues to keep them in a state of sustained and perhaps distressing activity. We speak of our minds having the command of our ideas. This may be correct enough

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* System of Phrenology, 1825.

in popular language; but, philosophically speaking, our ideas command our minds. And even in those cases which appear most like exceptions to this principle, it will be found, on examination, that it is merely one class of ideas assuming the predominance over another. When we voluntarily change our train of thought, or endeavor to concentrate our minds upon a subject, the process is one in which, under an impression of the necessity or expediency of attending to the particular subject, we pass from the train of irrelevant ideas, and endeavor to reach, by the aid of our associations, the subject which we wish to study. Almost every individual is capable of this single effort, and he may repeat it again. But that uninterrupted sustaining of the attention so given, which constitutes Concentrativeness, depends on a quality distinct from efforts of attention,—a quality most strongly marked where least effort is necessary,—and that is simply the property which this mental power possesses of giving continuance to thoughts and feelings when they have sprung up in the mind. This property appears to exist in different degrees in different minds; to which, of course, the diversity in the manifestations of Concentrativeness, with which we are so often presented, is to be mainly attributed.

"It is not difficult to see in what way this property of permanence operates in producing the various peculiarities of a concentrative turn of mind. It is a law of thought which all systems of mental philosophy recognise, although they may explain it differently, that a conception or feeling, when present to the mind, naturally acts in calling up other conceptions and feelings of the same class. Ideas of Causality call forth other ideas of Causality; emotions of Benevolence or Destructiveness are followed by trains of conceptions associated by sympathy with the previous mental state. If, then, one predominating conception or feeling be held before the mind by the force of a strong Concentrativeness, the mental action just described will of necessity be greatly enhanced. The secondary conceptions will react upon the original, increasing the intensity of thought and feeling, and adding to the excitement of the mind. A more extensive range of ideas, all bearing the same kindred character, will thus be brought into view; and while the intellect, seizing from a distance the point to be pursued, arranges its materials on such a plan as is best adapted to attain it, it is at the same time prepared for executing the design with greater strength of conception, or, as the nature of the subject may require, with a tone of more powerful emotion. The effect of this concentration naturally extends to the active powers in cases where their co-operation is necessary; the associated volitions flow more readily along with the mental train, and participate in the harmony of all the other faculties.

"In perfect consistency with this view, we find that any circumstance which gives permanence to an emotion independently of Concentrativeness, produces the same effect. The continued presence of a cause of provocation will excite Destructiveness to a greater excess of passion. Large Cautiousness, along with deficient Hope, will give a permanent tinge to all the mental feelings; and, when excited by disease, may so completely fill the mind with their gloomy suggestions, as to render it inaccessible to every idea of a brighter complexion. Every sentiment, whatever its character may be, casts its own peculiar light over the mental prospects; and the objects beheld reflect that light alone to the mind, whether it be the splendor of our more bright and joyous feelings, or the fiercer glow of the destructive passions, or the sombre illumination of a more melancholy mood.

"It occurs to me that the amount of this power, in the composition of intellectual character, has not been fully estimated by phrenologists. Independently of Phrenology altogether, the varieties of mental constitution cannot, I think, be satisfactorily accounted for, but by supposing that Concentrativeness is an original element of mind, varying in force in different individuals. In connecting this power with the cerebral organ, phrenologists have proceeded upon experience; and so far as my limited observation has gone, I have been gratified by the remarkable coincidences which it has presented between fact and this part of the system. The following remarks have been suggested by observation, and are not merely speculative; but, at the same time, they are submitted, to be set aside or confirmed as to their phrenological accuracy by the more extensive observations of our veteran phrenologists.

"What is the result of extreme defect in this organ I have had no opportunity of knowing. Deficiency, in the more ordinary degrees, discovers itself in different ways, according to its combination with other faculties. In some individuals it produces an indisposition to settle into any regular plan of life; or, if this has been controlled by circumstances and other faculties, there may still be seen a want of method, forethought, and continuity, in the various concerns of intercourse or business. The individual does not appear like one driving constantly towards a particular object; his mind takes its direction from shifting circumstances; and if other faculties conspire, he may be characterized by a sort of careless facility or vivacity of disposition. Should these appearances be restrained by large Cautiousness and Firmness, while the reflecting organs at the same time are full, the manifestations of the deficiency will be considerably different. There may be a propensity to reason, and possibly to deal in abstract speculation; while the individual will exhibit, in his attempts at argument, a degree of cloudiness and ambiguity of conception, which evidently results from an incapacity of holding up distinctly before his mental vision the subject of thought.

"We occasionally find persons with large reflecting organs, whom we are surprised to observe little given to sustained reasoning or philosophical speculation. The writer has noticed some such, with Causality and Wit both large, while he has had reason either to know or to suspect, that the organ of Concentrativeness was considerably deficient. The intellectual perceptions of such appeared to be strong and rapid, and possessed the momentary brilliancy imparted by Ideality, or the energy derived from a large Combativeness. But the mental action was never sustained; the energy ceased when its impression had just been felt by the auditor; and the decisions of Causality and Wit were never prolonged into a train of connected argument. They came to their conclusions by judgments, and not by ratiocination. Whatever could be seen at a glance or two, they perceived, and often with much perspicacity and originality; but they failed in every thing requiring the investigation of abstract principles or logical deduction. They excelled in whatever admitted of succession and variety of remark, but were unsuccessful where a single point was to be kept in view, and carried by argument. They were better orators than writers, and more powerful still in conversation than in prolonged oratory. It might be that they argued well in conversational controversy; but this was because the successive replies of the debate broke the reasoning into steps, if I may say so, and always presented a new point for immediate judgment.—All this appears to be the natural consequence of a deficient Concentrativeness. We must observe, however, that such a mind, when its faculties are under the influence of strong excitement, may exhibit a degree of unity and sustainedness of thought beyond what is usual to it at other moments;—but this would prove nothing against an actual deficiency in Concentrativeness. All possess the quality in some degree, and, of course, on occasions of greater excitement, its power will be augmented. And still it may be said, that if great Concentrativeness were placed in the same circumstances, its manifestations would be still more remarkable.

"Full or large Concentrativeness gives rise to other descriptions of intellectual character. We may occasionally observe a class of persons, who, with the intellectual organs rather poorly developed, are notwithstanding great dabblers in argument. They are a species of Lilliputian gladiators, who are perpetually skirmishing and hair-splitting with all about them in behalf of certain favorite opinions, to the merits of which few, alas! are sensible but themselves. This is the extreme case, but various modifications of it will be found. The probability is, that in all such the faculty of Concentrativeness is full; it may be seen, indeed, in the natural language of their looks and gestures: along with this, Causality will be discovered to be relatively the largest of their intellectual faculties, although absolutely small. Their reasonings are distinguished by two qualities. The first of these is a deficiency of strength and breadth in the conceptions which compose them; so that their track is something like the lines of navigators' courses in the charts, remarkable for nothing but its continuousness. The second is, that they take no comprehensive survey of the general principles which bear upon a question; but having the power of seeing and dissecting that which is immediately before them, they work onward by the help of certain little formulæ, now right, and now wrong, till they strike upon some palpable absurdity, some contradiction to more general principles or more extensive analogies. When such individuals are compared with persons of the former class, who have large Causality, and yet do not reason, an apparent contradiction is presented to the phrenological account of Causality, as a faculty which disposes to metaphysics, and 'gives the perception of logical consequences in argument.' The contradiction vanishes when we connect two powers together as necessary to reasoning. The Causality of every one whose mind is sound, is capable of perceiving the relation between a cause and its effect, or between simple premises and a conclusion. If Concentrativeness be added, which gives the power of keeping the subject of thought steadily before the mind, there will be a capacity for pursuing such a connected series of judgments as constitutes reasoning. In mathematical reasoning, where every term has a definite extension, the above power will be sufficient for forming sound conclusions. But, in the investigation of moral subjects, there is required a comprehensive conception of the various relations of each term or principle employed in our deductions; and this appears to be the property of a large Causality in conjunction with the knowing organs;—the former giving a powerful memory for relations previously discovered, and the latter supplying the materials on which the decisions of Causality are founded. In both of these, such reasoners as we speak of are deficient; and hence their speculations want the elements both of strength and comprehensiveness of thought.

"When full Concentrativeness is joined to large Causality and Individuality, the power of philosophy and reasoning appears in its greatest perfection. The mind is at once possessed of large intellectual resources, and is capable of making the most of them by its power of collecting its conceptions into a strong mental picture, and conveying them with the full force of a sustained representation to the minds of others. The effects of a large

Causality are just the reverse of those we attributed to a small. The intellectual picture is enlarged in its dimensions, is more completely filled up with related conceptions, and has its lines more strongly drawn; and, along with this, there is a more comprehensive view of the multiplied connexions which the subject of thought has with other remoter truths."

The styles of Tacitus and Grattan appear to me highly characterized by Concentrativeness, while that of Dugald Stewart is so only in a moderate degree. The quality is much more conspicuous in the poetry of Thomas Campbell and Crabbe than in that of Sir Walter Scott. It seems to have been recognised by the late Dr. Thomas Brown, who names it a "Comprehensive Energy," and it abounds in his own writings.

It has been objected, that concentration in style is, in many instances, the result of labor and condensation, and in this I agree; but before an author will bestow pains in communicating this quality to his compositions, he must have a relish for it himself; and this, according to my notion, is inspired by the organ in question. The object of his exertions is to bring his style up to a state which pleases his own faculties; and if the organ be small, he will not find pleasure in concentration either of feeling or thought.

It has been said, that Individuality and Eventuality, when large, produce the effects here attributed to Concentrativeness; but I am acquainted with a literary gentleman in whom these organs are large, and Concentrativeness deficient, and who manifests great knowledge of facts and details, combined with deficiency in the power of keeping them continuously before his own mind, so as to discover their relative bearings and applications. On the other hand, I am acquainted with a philosophical author, who possesses large Concentrativeness with deficient Eventuality, and who complains of experiencing great difficulty in acquiring knowledge of details, who requires to write down instantly the results of his reading and observations, and whose knowledge exists in his portfolio more than in his brain, but who, in reproducing his knowledge as an author, labors incessantly till he has discovered its natural relations, and gives it forth in the most concentrated and systematic form. When Comparison and Causality are large in combination with large Concentrativeness, there is a tendency to systematize knowledge : when the latter is deficient this is not felt; and I regard one element in a systematic mind to be the power of giving continuousness to feelings and ideas, thereby enabling the intellect to contemplate the relations subsisting among them.

According to this account of the faculty, an individual may have great liking for a particular pursuit, Botany, for example, or Phrenology, if he possess the combination of faculties which takes pleasure in it; and he may pursue it with ardor, and nevertheless be deficient in Concentrativeness. I know such persons, but all of them make efforts, collect knowledge, or communicate ideas, without taking a comprehensive and concentrated view of the objects and relations about which they treat. Dr. Spurzheim, however, objects to my ideas, and states, that his experience is in contradiction to them. Facts alone must determine between us. At the same time, there appears to be nothing in the notions of Dr. Spurzheim concerning Inhabitiveness, inconsistent with the more extensive views now taken of the functions of this faculty.

It has been objected by him, that "Concentrativeness cannot possibly be a primitive faculty, since it can neither act alone, nor appear diseased singly; and since its very existence only becomes apparent by the presence of other powers directed to one object." There are various faculties which cannot act alone : thus, Firmness presupposes the activity of other powers, we persevere in passion, in love, in hate, ambition, or in study; but cannot well persevere in mere abstract perseverance : Cautiousness causes us to fear; but we always fear something, which depends on other faculties, and rarely experience abstract fear itself. Concentrativeness, therefore, is not singular in not acting alone.

As to disease of Concentrativeness, this organ appears to suffer in those lunatics whose attention is immovably fixed on some internal impression, and who remain absorbed in silent and profound meditation, insensible alike to the threats and caresses of those around them, and to the effects of external objects. They differ from ordinary monomaniacs in this, that the latter, with certain unsound feelings or intellectual perceptions, or with unsound associations on the presentment of certain external objects, can still direct their attention to other feelings or ideas, and concerning them can hold rational conversation. The state now attributed to diseased Concentrativeness, must be distinguished also from one for which it has been sometimes mistaken, viz. *dementia*, approaching to idiocy, in which a fixed look and silent calmness appear, not from internal meditation, but from utter insensibility to stimuli. In disease of Concentrativeness, the patient possesses intense consciousness, and, when cured, is able to give an account of all that passed in his mind during the malady; in *dementia*, the period of the disease forms a blank in existence, the individual recollecting nothing. Dr. A. Combe, to whom I owe these observations, states, that he has heard Esquirol, in his lectures at the Salpetrière, speak of cases such as those now described; and he has seen examples which proved the accuracy of his account of them, although, owing to the function not having been discovered at the time, he did not observe the condition of this particular organ. I am acquainted with a gentleman in whom the organ is large, and who, while laboring under a nervous affection, in which Cautiousness and Conscientiousness were diseased, experienced a feeling as if the power of concentrating his mind were about to leave him, and who used vigorous efforts to preserve it. He directed his attention to an object, frequently a spire at the end of a long street, and resolutely maintained it immovably fixed there for a considerable length of time, excluding all other ideas from his mind. The consequence was, that in his then weak state, a diseased fixity of mind ensued, in which feelings and ideas stood as it were bound up and immovable, and thereafter a state in which every impression and emotion was floating and fickle like images in water. He was then unacquainted with Phrenology, but knows it now, and expresses his conviction that the circumstances detailed were probably referable to a diseased affection of the organ in question.

Dr. Spurzheim objects farther, that "no one, in concentrating his mind, and directing his powers to one object, exhibits gestures

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works on science of any people of Europe; and to this Concentrativeness is essential. They bring their powers to bear in a regulated manner on the point under consideration, and present it clearly and definitely to the understanding. The Germans have more powerful reflecting faculties than the French, and also greater perseverance; but, if I may judge from the limited knowledge of their literature which I have been able to obtain, they appear inferior to them in Concentrativeness. They introduce more frequently extraneous ideas and feelings, and do not present so neat and complete a whole in their compositions.

In regard to the tendency to "Inhabitiveness," I conceive that concentration of mind is favorable to this tendency, and that men and animals, whose faculties are more concentrated, have the greatest inclination to remain in one place; besides, animals which browse on rocks, and which place their nests in high and difficult situations, or by the banks of rapid rivers, would require for their well-being and comfort just such a faculty as this, which should enable them to maintain their position with ease, and at the same time to provide for their food and safety. The eagle, which loves to soar aloft, requires certain faculties to be exerted to maintain his equilibrium, while at the same time his eye darts at once over a great expanse "through the azure deep of air," to discern his prey on the surface of the earth. There are farther required a concentration and simultaneous action of numerous faculties in the stoop which he makes upon the prey itself, and in pouncing at once upon the bird or lamb which he has selected for his victim. Something of the same kind is required in the water-fowl, whose cradle is the deep, in diving for his food through the waters. The co-operation of all his powers must be required to keep him in that situation, and at the same time enable him to secure what he wishes for food, and avoid his numerous enemies. In this way I conceive that the new functions attributed to this organ do not supersede the old, nor imply any incorrectness in the observations which led Dr. Spurzheim to conjecture its uses; at the same time there may be a modification in the faculty itself in different species of animals, which may determine some to high and some to low situations; while in man it may be a more general faculty, without determining to a residence of any particular kind.

The strongest expression of this faculty which I have observed is in rope-dancers. Their countenances show a great internal effort of mental concentration, watching and directing the slightest motions of the body; and in the head of Ducrow, of which the Phrenological Society has a cast, the organ is very large. He manifests the faculty in the highest degree.

The leading object of these discussions is to enable the reader to form an idea of the mental quality, if it be such, intended to be designated by Concentrativeness, so that he may be able to decide on the function of the organ by his own observations. It acts along with the feelings as well as with the intellect, and prolongs emotions. Abstract reasoning is not admitted in Phrenology as proof in favor of any organ or faculty; and I have observed that, by leading the mind insensibly to adopt a conclusion for or against particular ideas, it produces a tendency to seek support for opinions rather than truth, and thereby retards the progress of accurate investigation.—The function is stated as only probable, and stands open for further elucidation.

4.—ADHESIVENESS.

THIS organ is situated at the middle of the posterior edge of the parietal bone, on each side of Concentrativeness, higher up than Philoprogenitiveness, and just above the lambdoidal suture. When very large, two annular protuberances will be observed there; or a general fulness, if the neighboring organs be large; when small, that part of the head is narrow or depressed.

Dr. Gall was requested to mould for his collection the head of a lady, who was described to him as a model of friendship. He did so, more through complaisance, than in expectation of making any discovery. In examining the head, he found two large prominences, in the form of a segment of a circle, on the sides of the organ of Philoprogenitiveness. These prominences, which he had not previously observed, were symmetrical, and manifestly formed by part of the brain; and he therefore concluded, that they indicated organs; but the question was, what are their functions? He inquired at the friends of the lady concerning her dispositions and talents, and also obtained her own opinion of the feelings and capacities which she most strongly possessed. All the information concurred in regard to the fact, that she was distinguished by inviolable attachment to her friends. Although at different periods of her life, her fortune had undergone great changes, and on several occasions she had passed from poverty to riches, her affection for her former friends was never forgotten. The idea naturally presented itself, that the disposition to attachment might be connected with a particular part of the brain. This inference acquired greater probability from the circumstance, that the prominences on the head of this lady were placed immediately above the organ of sexual love, and on the two sides of that of the love of children, and that the three feelings have obviously some analogy to each other. Many subsequent observations confirmed this conjecture, and the organ has long been regarded as established.

The faculty gives the instinctive tendency to attachment, and causes us to experience the greatest delight in a return of affection. Those in whom it is large, feel an involuntary impulse to embrace, and cling to any object which is capable of experiencing fondness. It gives ardor and a firm grasp to the shake with the hand. In boys, it frequently displays itself by attachment to dogs, rabbits, birds, horses, or other animals. In girls, it adds fondness to the embraces bestowed upon the doll. The feelings which it inspires abound in the poetry of Moore. He beautifully describes its effects in the following lines:

"The heart, like a tendril accustomed to cling,
Let it grow where it will cannot flourish alone;
But will lean to the nearest and loveliest thing,
It can twine with itself, and make closely its own."

It also inspires the verse,

"The heart that loves truly, love never forgets,
But as truly loves on to the close;
As the sun-flower turns to her god as he sets,
The same look that she turned when he rose."

They perhaps feel many points of repulsion, and are not happy if too long and too closely united; but still, on being separated, they experience a longing for each other's society, which makes them forget and forgive every thing to obtain its gratification. There are husbands and wives who cannot live together, and yet who become miserable when long separated. I conceive this to arise from large Adhesiveness in both, combined with other faculties in each, which do not harmonize.

This faculty is clearly distinguishable from Benevolence, for many persons are prone to attachment who are not generous. It, however, has a more extensive influence than the production of friendship among individuals, and appears to give rise to the instinctive tendency to congregate, whence society has originated. Man is created obviously with a view to the social state. His feelings of benevolence, love of praise and justice, require society for their objects, as much as the stomach requires food to enable it to perform the process of digestion; and nature, by means of this faculty, seems to give the instinctive tendency to associate, by means of which the whole powers of the mind may find scope for exercise. If this view be correct, deficiency in the organ will be essential to an anchorite or hermit.

Some of the lower animals possess this propensity as well as man: It is remarkably strong in the dog; and horses and oxen sometimes become sick and pine, when deprived of accustomed companions. "It is to be observed, however," says Dr. Spurzheim, "that the instinct of being attached for life, and that of living in society, are not mere degrees of energy, so that a lower degree produces attachment for life, and a higher degree for society. For there are animals which live in society without being attached for life; as the bull, the dog, cock, &c.; others live in society, and in family, as starlings, ravens, crows, &c.; others again are attached for life without living in society, as the fox, magpie," &c. The instinct, therefore, of living in society, and that of living in family, are *modifications* of the faculty in question; just as smell, although the same sense in herbivorous and carnivorous animals, is modified in the former to take cognizance of vegetable substances, and in the latter, of the animal fibre and effluvia. "Man belongs to the animals which are social and attached for life; society and marriage are consequently effects not of human reflection, but of an original decree of nature."—*Spurzheim's Physiog. Syst.* p. 200, *and Phrenology*, p. 163.

Dr. Gall does not coincide in the opinion that attachment for life in man and animals results from this organ. It appears to him, so far as his knowledge of natural history extends, that, in all species where both the male and female concur in rearing the young, marriage for life exists; and that, on the other hand, where the unaided female is sufficient to this end, the connexion is temporary. At the same time, he speaks with much reserve on the subject, and is not prepared to decide, whether there is a separate organ for attachment for life,—whether it is the result of a combination of several organs, or a modification of Adhesiveness. —Vol. iii. p. 485.

Excessive energy of this faculty produces extreme regret at the loss of friends, or at leaving our country. Nostalgia is supposed to result from disease of the organ.

Mr. Stewart[*] and Dr. Thomas Brown,[†] admit this tendency as a primitive instinct of our nature, and concur in general with the views of the phrenologists in regard to it.

J. J. Roussea founds his celebrated Essay on the Origin of the Inequality of Ranks, which obtained the prize from the Academy of Dijon, on the non-existence of such a propensity in the human mind. He views man in his natural state, as an isolated and wandering animal, satisfying his hunger by the chase, or by the fruit of the forest, and quenching his thirst at the spring or the brook, and having no more need or desire of society with his kind, than the eagle or the wolf. He conceives, that the individual who first enclosed a spot of ground and called it *mine*, and who first cajoled his fellow men to settle around him and assist him in his projects, was the author of all the evil with which human nature is now afflicted. Many volumes have been written in answer to this absurd lucubration; but I submit, that Phrenology, by showing that those who have this part of the brain large, are inspired with an instinctive tendency to attachment and society, affords a brief and satisfactory refutation of the hypothesis.

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[*] Outlines, p. 87. [†] Lecture 67.

The great activity of this organ disposes persons to embrace and cling to each other; two children in whom it is active will put their arms round each others necks, and place their heads together, bringing the organ of Adhesiveness in each into contact with the same organ in the other, or assuming this attitude as nearly as possible. A dog when anxious to show his attachment will rub his head at the seat of this organ, on his master's leg.

The organ is established.

5.—COMBATIVENESS.

THIS organ is situated at the posterior-inferior angle of the parietal bone.

Dr. Gall gives the following account of its discovery. After he had abandoned all the metaphysical systems of the mind, and become anxious to discover the primitive propensities of human nature, by means of observation, he collected in his house a number of individuals of the lower classes of society, following different occupations, coach-drivers, servants, &c. After acquiring their confidence, and disposing them to sincerity, by giving them wine and money, he drew them into conversation about each other's qualities, good and bad, and particularly about the striking characteristics in the disposition of each. In the portraits which they drew of each other, they paid particular attention to those who everywhere provoked quarrels and disputes; they also distinguished individuals of a pacific disposition, and spoke of them with contempt, calling them poltroons. Dr. Gall became curious to discover, whether the heads of the *bravoes* whom they described differed in any respect from those of the pacific individuals. He ranged them on opposite sides, and found, that those who delighted in quarrels had that part of the head immediately behind, and a little above the ear, much larger than the others.

He observes, that there could be here no question about the influence of education, and that this prominent feature in the character of each could never be attributed to the influence of external circumstances. Men in the rank to which they belonged, abandon themselves without reserve to the impulse of their natural dispositions.

The spectacle of fighting animals was, at that time, still existing at Vienna. An individual belonging to the establishment was so extremely intrepid, that he frequently presented himself in the arena quite alone, to sustain the combat against a wild boar, or a bull. In his head, the organ was found to be very large. Dr. Gall next examined the heads of several of his fellow students, who had been banished from Universities for exciting contentions, and continually engaging in duels. In them also the organ was large. In the course of his researches, he met with a young lady who had repeatedly disguised herself in male attire, and maintained battles with the other sex; and in her, also, the organ was large. On the other hand, he examined the heads of individuals, who were equally remarkable for want of courage, and in them the organ was small. The heads of the courageous persons varied in every other point, but resembled each other in being large in this part. Equal differences were found in the other parts of the heads of the timid, when compared with each other, but all were small at Combativeness.

This faculty has fallen under the lash of ridicule, and it has been objected, that the Creator cannot have implanted in the mind a faculty for fighting. The objectors, however, have been equally shallow in learning, as in observation of human nature. The profoundest metaphysicians admit its existence, and the most esteemed authors describe its influence and operations. The character of Uncle Toby, as drawn by Sterne, is in general true to nature, and it is a personification of the combative propensity, combined with great Benevolence and Integrity. "If," says Uncle Toby, "when I was a school-boy, I could not hear a drum beat but my heart beat with it, was it my fault? Did I plant the propensity there? Did I sound the alarm within, or nature?" He proceeds to justify himself against the charge of cruelty supposed to be implied in a passion for the battle field. "Did any one of you," he continued, "shed more tears for Hector? And when King Priam came to the camp to beg his body, and returned weeping back to Troy without it,—you know, brother, I could not eat my dinner. Did that bespeak me cruel? or, because, brother Shandy, my blood flew out into the camp, and my heart panted for war, Was it a proof that it could not ache for the distress of war too?"

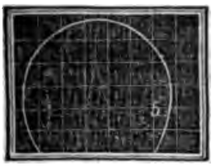
Tacitus, in his history of the war by Vespasian against Vitellius, mentions, that, "Even women chose to enter the capital and abide the siege. Amongst these, the most signal of all was Verulana Gracilia, a lady, who followed neither children nor kindred, nor relations, but followed only the war."—Lib. iii. "Courage," says Dr. Johnson, "is a quality so necessary for maintaining virtue, that it is always respected, even when it is associated with vice."

Mr. Stewart and Dr. Reid admit this propensity, under the name of "sudden resentment;" and Dr. Thomas Brown gives an accurate and beautiful description of it, under the name of "instant anger." "*There is a principle in our mind*," says he, "*which is to us like a constant protector*, which may slumber indeed, but which slumbers only at seasons when its vigilance would be useless, which awakes at the first appearance of unjust intention, and which becomes *more* watchful and *more* vigorous in proportion to the violence of the attack which it has to dread. What should we think of the providence of nature, if, when aggression was threatened against the weak and unarmed, at a distance from the aid of others, there were instantly and uniformly, by the intervention of some wonder-working power, to rush into the hand of the defenceless, a sword or other weapon of defence? and yet this would be but a feeble assistance, if compared with that which we receive from those simple emotions which Heaven has caused to *rush*, as it were, into our mind, for repelling every attack."—Vol. iii. p. 324. This emotion is exactly the phrenological propensity of Combativeness. The chief difference between Dr. Brown's views and ours, is, that he regards it as a mere susceptibility of emotion, liable to be called into action when provocation presents itself, but slumbering in quiescence in ordinary circumstances; while we look upon it as an active impulse, exerting an influence on the mental constitution, independent of unjust attack. It is to express this active quality, that "Combativeness" is used to designate the *faculty*, in preference to "Courage."

Combativeness, then, inspires with courage, and, when properly directed, is useful to maintain the right. On this account, a considerable endowment of it is indispensable to all great and magnanimous characters. Even in schemes of charity, or in plans for the promotion of religion or learning, opposition will arise, and Combativeness inspires its possessor with that instinctive boldness which enables the mind to look undaunted on a contest in virtue's cause, and to meet it without shrinking. Were the organ very deficient in the promoters of such schemes, they would be liable to be overwhelmed by contention, and baffled in all their exertions. I conceive Mrs. Fry would require no small Combativeness to give her courage to undertake the reformation of Newgate. Without it, her mind could not have felt that boldness to encounter difficulty, which must have preceded the resolution to undertake so great an enterprise. Howard, the philanthropist, also must have been supported by it in the perils he voluntarily undertook in visiting the dungeons of Europe. Indeed I have observed that the most actively benevolent individuals of both sexes, those who, in person, minister to the relief of the poor, and face poverty and vice in their deepest haunts, to relieve and correct them, have this organ fully developed. Luther and Knox must have required a large portion of it, to enable them to perform the services which they rendered to Christendom.

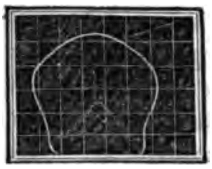
The organ is large in valiant warriors. In the skulls of King Robert Bruce, and General Wurmser, who defended Mantua against Buonaparte, it is exceedingly conspicuous. The figures, at the top of next page, represent Wurmser's skull contrasted at this organ with the skull of a Ceylonese boy, in whom it is small.

General Wurmser.



Combativeness large.

Ceylonese Boy.



Combativeness small.

In feudal times, great Combativeness was more essential to a leader than it is in modern warfare. Richard Cœur de Lion, Bruce and Wallace, could command the fierce barbarians whom they led to the field only by superior personal prowess; and, indeed, hope of victory was then founded chiefly on the dexterity with which the chief could wield his sword. In modern warfare, comprehensiveness of intellect is more requisite in a General; but still Combativeness is a valuable element in his constitution. Napoleon distinguished accurately between these two qualities. He describes Ney and Murat as men in whom instinctive courage predominated over judgment; and notices their excellence in leading an attack, or a charge of cavalry, combined with their incapacity for great affairs. The most perfect military commander, he says, is formed when courage and judgment are *in æquilibrio;*—in phrenological language, when the organs of Combativeness, moral Sentiment, and Reflection, are in just proportion.

This faculty is of great service to an advocate: it furnishes him with the spirit of contention, and causes his energies to rise in proportion as he is opposed.

It inspires authors with the love of battles. Homer and Sir Walter Scott are fired with more than common energy, when describing the fight, the slaughter, and the shouts of victory. From this sympathy of historians, orators and poets, with deeds of arms, warriors are too inconsiderately elevated into heroes, and thus the trade of butchery is fostered and rendered glorious, with small reference to the merits of the quarrel. Phrenology, by revealing the true source of the passion for war, will, it is to be hoped, one day direct the public sentiment, to mark with its highest disapprobation every manifestation of this faculty that is not sanctioned by justice, and then we shall have fewer battles and inflictions of misery on mankind.

When too energetic and ill directed, it produces the worst results. It then inspires with the love of contention for its own sake. In private society it produces the controversial opponent, who will wrangle and contest every point, and "though vanquished, who will argue still." When thus energetic and active, and not directed by Conscientiousness, it becomes a great disturber of the peace of the domestic circle: Contradiction is then a gratification, and the hours that ought to be dedicated to pure and peaceful enjoyment are imbittered by strife. On the great field of the world, its abuses lead to quarrels, and, when combined with Destructiveness, to bloodshed and devastation. In all ages, countless thousands have thronged round the standard raised for war, with an ardor and alacrity which showed that they experienced pleasure in the occupation.

Persons in whom the organ is large, and not directed by superior sentiments, are animated by an instinctive tendency to oppose every measure, sentiment, and doctrine, advocated by others; and they frequently impose upon themselves, so far as to mistake this disposition for an acute spirit of philosophizing prompting them to greater vigor of investigation than other men. Bayle, the author of the Historical Dictionary, appears to have been a person of this constitution; for, in writing, his general rule was to take the side in opposition to every one else; and hence it has been remarked, that the way to make him write usefully, was to attack him only when he was in the right, for he would then combat in favor of truth with all the energy of a powerful mind. William Cobbett mentions, that, in his youth, the rattle of the drum inviting him to war was enchanting music to his ears, and that he ardently became a soldier. In his maturer years, the combative propensity seems to glow with equal vivacity in his mind, although exerted in a different direction. By speech and writing he now contends in favor of every opinion that is interesting for the day. To Combativeness is probably owing no small portion of that boldness which even his enemies cannot deny him to possess.

The organ is large also in persons who have murdered from the impulse of the moment, rather than from cool deliberate design. The casts of Haggart and Mary Macinnes are examples in point. The organ is large also in several casts of Charibs' skulls, a tribe remarkable for the fierceness of their courage. Dr. Spurzheim mentions, that the ancient artists have represented this organ large in their statues of gladiators. The practice of that art, as also the prize-fights of England, have for their object the gratification of this propensity.

When the organ is very large and active, it gives a hard thumping sound to the voice, as if every word contained a blow. Madame De Stael, informs us, that Buonaparte's voice assumed this kind of intonation when he was angry; and I have observed similar manifestations in individuals, whom I knew to possess this part of the brain largely developed. When predominant it gives a sharp expression to the lips, and the individual has the tendency to throw his head backwards in the direction of the organ, or to assume the attitude of a boxer or fencer.

When the organ is small, the individual experiences great difficulty in resisting attacks; nor is he able to make his way in paths where he must invade the prejudices or encounter the hostility of others. Excessively timid children are generally deficient in this organ and possess a large Cautiousness; their heads resembling the figure of the Ceylonese boy on p. 150. I conceive the extreme diffidence and embarrassment of Cowper the poet, to have arisen from such a combination; and in his verses he loathes war with a deep abhorrence. Deficiency of Combativeness, however, does not produce fear; for this is a positive emotion, often of great vivacity, which cannot originate from a mere negation of an opposite quality.

Combativeness is generally more developed in men than in women; but, in the latter, it is sometimes large. If it predominates, it gives a bold and forward air to the female; and when a child she would probably be distinguished as a romp.

In society it is useful to know its effects, for then we can treat it according to its nature. If we wish to convince a person in whom it is large and Conscientiousness deficient, he will never endeavor to seize the meaning or spirit of our observations, but will pertinaciously put these aside, catch at any inaccuracy of expression, fly to any plausible, although obviously false inference, or thrust in some extraneous circumstance, as if it were of essential importance, merely to embarrass the discussion. Individuals so constituted are rarely convinced of any thing, and the proper course of treatment is to drop the argument and leave them in quiet possession of the field. This by withdrawing the opportunity for exercising their combativeness is really a punishment to them; and our views will have a better chance to sink into their minds unheeded by themselves, than if urged by us and resisted by them, which would infallibly be the case if we showed anxiety for their conviction. The test of a combative spirit is to state some clear and almost self-evident proposition as part of our discourse. The truly contentious opponent will instinctively dispute or deny it; and we need proceed no farther.

When the organ is large, and excited by strong potations, an excessive tendency to quarrel and fight is the consequence. Hence some individuals, in whom it is great, but whose moral and intellectual faculties are capable of restraining it when sober, appear, when inebriated, to be of a different nature, and extremely combative. The organ is liable also to excessive excitation through disease. Pinel gives several examples of monomania clearly referable to this organ. "A maniac," says he, "naturally *peaceful* and *gentle* in disposition, appeared inspired by the demon of malice during the fit. He was then in an unceasingly mischievous activity. He locked up his companions in their cells, provoked and struck them, and at every word raised some new quarrel and fighting." Another individual, who, during his lucid intervals, was mild, obliging, reserved, and even timid in his manners, became, during the fit, highly audacious, "and experienced the most violent propensity to provoke those who approached him, to irritate and fight them, *avec outrance.*" On visiting London Bedlam in 1824, I examined the head of a male patient, and pronounced Combativeness and Destructiveness to be uncommonly large. I was desired to look at his hands. They were fastened to rings in an iron girdle round his waist. He had committed murder in an access of fury, and was liable to relapses, in which he manifested these propensities with inordinate vehemence.

This organ is found also in the lower animals; but there are great differences among them in respect to its energy. Rabbits, for instance, are more courageous than hares; and one dog looks incessantly for an opportunity of fighting, while another always flies from the combat. The bull-dog forms a contrast in this propensity to the greyhound; and the head of the former is much larger betwixt and behind the ears than the latter. "This also is an unfailing sign to recognise if a horse be shy and timid, or bold and sure. The same difference is observed in game-cocks and game-hens, in comparison with domestic fowls. Horse jockeys, and those who are fond of fighting cocks, have long made this observation."—*Physiogn. System*, p. 302.

The organ is established.

6.—DESTRUCTIVENESS

THIS organ is situated immediately above, and extends a little backwards and forwards from, the external opening of the ear, and corresponds to the lower portion of the squamous plate of the temporal bone. In Dr. Gall's plates it extends a few lines farther back than in those given by Dr. Spurzheim; and Dr. Gall mentions, that when it is excessively large, the whole portion of the skull from the inferior margin of the parietal bones to the ears is elevated; and that, in cases of smaller developement, the prominence is confined to the temporal bones. I have seen examples of both kinds.

Dr. Gall gives, in substance, the following account of the discovery of this organ. In comparing attentively the skulls of several of the lower animals, he observed a characteristic difference betwixt those of the carnivorous and the graminivorous tribes. In graminivorous animals, only a small portion of the brain lies behind the external opening of the ear; while in the carnivorous, a considerably larger mass is situated there. For a long time he merely communicated these observations to his hearers, without making the least application of them to Phrenology. He only pointed out that, by inspecting the cranium, even when the teeth are wanting, it is possible to distinguish whether the animals belong to the graminivorous or carnivorous genera. It happened, at length, that some one sent him the skull of a parricide; but he put it aside, without imagining that the skulls of murderers could be of any use to him in his researches. Shortly afterwards he received also the cranium of a highwayman, who, not satisfied with robbing, had murdered several of his victims. He placed these two crania side by side, and frequently examined them. Every time that he did so he was struck with this circumstance, that although they differed in almost every other point, each of them presented a distinct and corresponding prominence, immediately above the external opening of the ear. Having observed, however, the same prominence in some other crania in his collection, he thought that it might be by mere accident that these two parts were so much developed in the skulls of the murderers. It was only, therefore, after a considerable time, that he began to reflect upon the different conformation of the brain in carnivorous and graminivorous animals; and then observing that the part which was large in carnivorous animals, was precisely that which was so much developed in the murderers, the question occurred to him, Is it possible that there can be any connexion betwixt the conformation of brain thus indicated and the propensity to kill? "At first," says Dr. Gall, "I revolted from this idea; but when my only business was to observe, and to state the result of my observations, I acknowledged no other law than that of truth." "Let us not, therefore," says he, "fear to unfold the mysteries of nature, for it is only when we shall have discovered the hidden springs of human actions, that we shall know how to guide the conduct of men."

The organ has been subjected to much ridicule, owing partly to its having been at first named the organ of Murder, from having been found largest in individuals who had suffered death for this crime. The propensity, however, now designated Destructiveness, is recognised by many authors as existing in the human mind. Lord Kames observes, that "there is a contrivance of Nature, no less simple than effectual, which engages men to bear with cheerfulness the fatigues of hunting, and the uncertainty of capture; and that is *an appetite for hunting.*"—"It is an illustrious instance of providential care, the adapting the internal constitution of man to his external circumstances. The appetite for hunting, though among us little necessary for food, is to this day remarkable in young men, high and low, rich and poor. Natural propensities may be rendered faint or obscure, but never are totally eradicated."—*Sketches*, b. i.

Vicesimus Knox, in his Essays, gives a similar theory of hunting. The delight felt in this sport has been ascribed to the excitement of the chase, to emulation, and to the pleasure of succeeding in our aim; but if these were the sole sources of the enjoyment, then it ought to be as pleasant to gallop over hill and dale, and leap hedge and ditch, without as with an animal in chase, and as agreeable to shoot at any object thrown into the air as at a bird. This, however, is not the case; unless there is a creature to suffer the effects of the hunting and shooting, these acts afford but little pleasure.

The author of an essay on hunting, shooting, and fishing, read before the Literary and Philosophical Society of Manchester, on 15th January, 1783, recognises this appetite as inherent in the nature of man. "We have seen," says he, "the human mind, in every age, endowed with a strong natural inclination to these diversions. In the savage state, we have seen that the situation of man renders such a propensity absolutely necessary; we have seen it become at once conducive to his convenience and his pleasures. We behold him emerge from a state of uncivilization into polished life. This propensity still accompanies him; it stimulates him to exercise, the efficient cause of health."—"From the attributes justly ascribed to the benevolent Author of our existence, we may safely conclude, that every propensity with which the human mind is endowed, is not only necessary, but even conducive to our happiness, whilst indulged in the proper degree. This is not more true of the mild and gentle dispositions, those which seem to be nourished by the 'milk of human kindness,' than of our more active and lively propensities, those which excite to the most vigorous and toilsome exertions."—"In the exercise of every disposition of the human mind," adds the essayist, "the excess, or the deficiency, alone is injurious; but there is none, the limited use whereof doth not contribute to the happiness of the individual, and the good of society."*

The feeling is familiar to poets and authors who delineate human nature. The description by Sir Walter Scott, of King Robert Bruce avenging on Cormac Doil the death of Allan, is written in the very *spirit* of Destructiveness:

Not so awoke the King! his hand
Snatched from the flame a knotted brand,
The nearest weapon of his wrath,
With this he crossed the murderer's path,
And venged young Allan well!
The spattered brain and bubbling blood
Hissed on the half-extinguished wood;
The miscreant gasp'd and fell.

The same author recognises several of the phrenological faculties in the following lines; and, in particular, Love of Approbation and Destructiveness: the latter, however, only in a state of abuse. The verses refer to the battle of Bannockburn:

But O. amid that waste of life,
What various motives fired the strife!
The aspiring noble *bled for fame.*
The patriot for his *country's claim;*
This knight his youthful strength to prove,
And that to earn his lady's love:
Some fought from ruffian thirst of blood,
From habit some, or hardihood.
But ruffian stern, and soldier good,
The noble, and the slave,
From various cause the same wild road,
On the same bloody morning trode,
To that dark Inn the grave.

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* Manchester Memoirs, Vol. I. pp. 343, 351.

In Recollections of the Peninsula, by the author of Sketches in India, the following passage occurs: "As the chill dews of evening were descending on our bivouack, a staff-officer, with a courier, came galloping into it, and alighted at the quarters of our general. It was soon known among us that a severe and sanguinary action had been fought by our brother soldiers at Talavera. Disjointed rumours spoke of a dear-bought field, a heavy loss, and a subsequent retreat. I well remember how we all gathered round our fires to listen, to conjecture, and to talk about this glorious, but bloody event. We regretted that we had borne no share in the honors of such a day; and *we talked with an undefined pleasure about the carnage.* Yes! strange as it may appear, soldiers, and not they alone, talk of the slaughter of battle-fields with a sensation which partakes of pleasure."* I have observed some young men who possessed good moral qualities, but whose thoughts ran habitually on killing and slaughtering. The impulse was restrained, but they confessed that it would have given them great momentary gratification to smash and slay. In them the organ was decidedly large.

The function of the faculty in the human mind, and its utility, are easily discovered. In regarding this scene of creation, we perceive man surrounded by ferocious animals such as lions, tigers, bears, and wolves; which are not only incapable of being tamed and put to use, but which would be fatal to him, if he did not destroy them. To maintain himself in existence, therefore, he must put many animals to death. Moreover, he has received from nature a stomach fitted to digest animal food, and a bodily system that is nourished and excited, and preserved in health and activity, by the aliment which it affords. To gratify this appetite, he must bereave animals of life by sudden destruction; for their flesh is unwholesome and unfit for use, if they die of old age or disease. In the last place, some human beings themselves are so inspired by evil passions, that no terror short of that of death will suffice to curb their appetites, and prevent them from injuring their fellow men. Now, let us consider in what condition man, placed in these circumstances, would have stood, if he had wanted this propensity. The hare has no Destructiveness; and its only safety is in flight. Man, without this faculty, would have been as little formidable to his foes as the hare; he would have been the timid prey of every ferocious animal in want of a meal. With Destructiveness, the lion and tiger read their fate in his eye; they recognise the natural expression of this power in him, as readily and strongly as in their fellows of the forest, and dread the encounter, unless irresistibly impelled by hunger.

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* Page 39

Let us imagine, also, a community of men, known to exist, in whom no Destructiveness was found; who would reason, entreat, or flee from their adversaries, but never raise a weapon in their own defence; how speedily would the profligate and unprincipled flock to the mansions of such a people, as to their appropriate prey; and what contumelies and sufferings would they not compel them to endure? But let the community possess the propensity in question—let them, in short, raise their standard, and, like Scotland's monarch, inscribe on it, "*Nemo me impune lacesset;*" a motto inspired by Destructiveness and Conscientiousness combined; and let them act up to the spirit of the words, by hurling vengeance on every wanton aggressor; and such a people will subsequently live in peace under their olive and their vine, protected by the terror which this faculty inspires into those who, but for it, would render the world a scene of horror and devastation. When any power is so indispensable to human safety as this, nature implants it in the mind; and such an instinct is Destructiveness.

Combativeness, then, gives courage to meet danger unappalled, and to resist it. Destructiveness makes the onset perilous and terrible to the aggressor. Combativeness enables us to meet and overcome obstacles, and having surmounted them, desires no more. Destructiveness prompts us to exterminate the causes of them, so that they may never rise up to create fresh embarrassments. Combativeness would inspire Luther and Knox with courage to oppose the doctrines of the Church of Rome, and to maintain the truth as revealed in the Scriptures; Destructiveness would prompt them utterly to destroy the Roman Hierarchy, and to trample its insignia under foot.

In actual life, a good endowment of the organ is an indispensable requisite to a proper discharge of the duties of several situations. What restrains the domination of the proud, but a knowledge, that, if they press too heavily even on the meanest, the feeling of resentment will start into activity to repel the insult; and resentment is the result of wounded Self-esteem, aided by Destructiveness. In the case of officers conducting difficult and dangerous enterprises, what weight would the word of command carry, if every stubborn mind that received it knew, for certain, that the leader's dispositions were so soft, that he would inflict no vengeance for disobedience ?—and vengeance or punishment flows from Destructiveness directed by justice. The sword, accordingly, is carried before the supreme magistrate, and is an emblem of Destructiveness ready to fall on the contemners of the law.

These are not mere theoretical ideas, but views founded on actual observations. The Hindoo head is smaller than the European, and in particular Combativeness and Destructiveness are less in it in proportion to the other organs ; and we see millions of the former conquered by hundreds of the latter. In actual life, I have met with persons who were so soft that they scarcely struck fire, however hardly they were hit ; who shrunk and retreated, yet agonized under every insult that was offered ; whose anger was so feeble, that its manifestations excited only a deeper scorn, and incited to further outrages. Such individuals possessed small Combativeness and Destructiveness, and were carried through life on the shoulders of others, being incapable of fighting their own way amidst the turmoils of the world. Those who have an ample endowment of these organs, well regulated by superior sentiments, are not aware how much they owe to it. In civilized society, we pass years without a contest, but it is because all know that the sentinels are at their post, and that attack is dangerous. A man in whom society recognises a deficiency of these powers, is not equally safe from aggression.

Destructiveness has been regarded by some phrenologists as communicating a more general species of energy to the mind. In endeavoring to trace analytically the manner in which it produces

When the energy of this faculty is great, indifference to suffering and destruction is the result. When too weak, and Benevolence being strong, positive pain and poignant distress are felt at the sight of death, and suffering of every kind. We are surrounded every day by death in all its forms, and by destruction in its every shape: and nature, by means of this faculty, steels our minds so far as to fit us for our condition, and to render scenes which our situation constrains us to witness not unsupportable. A certain degree of obduracy of feeling, regardlessness of suffering, and indifference to the calamities of our race, is absolutely necessary to render existence tolerable in this world of mingled joy and wo. I have seen individuals miserable from too feeble an energy of this faculty. Every object in a state of pain harrowed up their feelings, and lacerated their hearts, and produced a degree of continued uneasiness scarcely conceivable by persons of more obdurate dispositions.

The abuses of this faculty are easily recognised in society. There are persons who fly into a passion upon every trifling occurrence, and vent their rage on all who are subjected to their authority. This is a rude and vulgar manifestation of the propensity. There are others, however, who avoid this form of misapplication, but who indulge in making severe remarks and cutting observations, altogether uncalled for, and introduced with no view but to give pain; others issue their commands in harsh and angry terms, backed by loud threatenings and terrible gesticulations; others are severe to excess, on account of failures in duty, and little mindful of the happiness of those who live under their control: all these are abuses of Destructiveness. When very active, this propensity gives a dark expression to the countenance, and harsh and discordant tones to the voice. If, in a friendly converse with a person in whom the organ is large, and Secretiveness small, one happens to touch on some irritating topic, in an instant the softness of Benevolence, and the courtesy of Love of Approbation, will be gone, and the hoarse growl of Destructiveness will indicate an approaching storm. I have seen it stayed, by referring the rising wrath to its source in this propensity, and calling on reflection to subdue it.

Cursing is an abuse of this faculty; and I have observed among the lower orders, that some boys who attempted to practise this abominable vice through imitation, deeming it manly, could never infuse into their imprecations that force and expression which seemed to come quite instinctively to others;[*] and this natural incapacity for swearing proceeded from Destructiveness being moderately developed in proportion to the organs of the moral sentiments. I have said that this faculty furnishes the threat which gives force to command. In the Bible, every variety of motive is held out to deter men from sin; and I have noticed, that those individuals in whom Destructiveness predominates, have a natural tendency to dwell on the *threatenings* of the Gospel, while those in whom Benevolence, Hope and Veneration are large, and Destructiveness deficient, hold out almost exclusively its promises; or, if they do mention its denunciations, these are so diluted by the softness of their own minds, through which they pass, that more than half their terrors are abated. Preachers of the first class, while they sometimes harrow up the minds of more susceptible individuals, and cause them great uneasiness, frequently please those of sterner natures by their vehemence. The latter class, on the other hand, are acceptable to those naturally mild in disposition, and appear insipid to the others. Fear is a lower motive than love, and where the mind can be led by the higher feeling, it ought always to be preferred ; but many are open to the influence of terror, who are not alive to Hope and Veneration, and hence the use of both is necessary. It is only inordinate dwelling upon the one to the exclusion of the other that is reprehensible. The higher the cultivation of the audience, the less is fear likely to be requisite to make an impression. Fear is only aversion to personal suffering, and is totally different from the love of good.

The pleasure which even humane and cultivated individuals experience in witnessing an execution, is inexplicable on any principle, except that of the existence of such a faculty as this, aided no doubt by the love of excitement, arising from Wonder, and some other faculties. "We have," says Mr. Scott, in an admirable Essay on this propensity, "too much humanity ourselves to put a man to death. But, if a man is to be killed, we have no objection to witness the fact, or, if I may be allowed to say so, to enjoy the pleasure of seeing it performed."—"Were Destructiveness wanting, and Benevolence favorably developed, in persons present at an execution, they would be terrified, not delighted, by such a scene."—*Phren. Trans.* p. 147. A blind man in Edinburgh attended all the executions, and his Destructiveness was probably gratified by descriptions given to him by those who saw, and by their natural language when under the emotions excited by the scene.

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[*] *Stephen.* I would rather than forty shillings I could swear as well as that gentleman. "Body of Cæsar—St. George—and the foot of Pharaoh." No. I ha'nt the right grace. *Every Man in his Humour.*

In children, and even in adults, Destructiveness frequently vents itself in destroying inanimate objects. The people destroy mile-posts, bridges, statues, and public buildings, wherever they can get access to them; and "no object of art, or even of utility," says a late writer, "is safe from their depredations." He ascribes this tendency "to the spirit of pure mischief,"—a correct designation for unguided Destructiveness. The statute 3d Geo. IV. chap. 71., which ordains, "That, if any person or persons shall *wantonly and cruelly* BEAT, ABUSE OR ILL TREAT, any horse, mare, gelding," &c. he shall pay certain penalties to the King, is clearly directed against the abuses of this propensity, and, of course, supposes its existence. The adjectives *severe*, *harsh*, *angry*, *cruel*, *fierce*, *ferocious*, *savage*, *brutal*, *barbarous*, *atrocious*, indicate states of mind all originating from it.

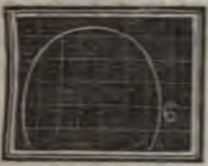
Metaphysical authors in general do not treat of any power resembling this faculty. Accustomed to reflect in the closet more than to observe actions, they were not likely to discover it. At the same time, it is surprising that the contemplation of the pages of history did not suggest a tendency of this kind to their mind. Caligula is represented cutting out the tongues of his victims,—delivering them to be devoured by wild beasts,—forcing individuals to assist in executing their relations,—torturing and putting to the rack unhappy wretches as an amusement to his own ferocious mind,—and finally expressing a wish that the Roman people had but one head, that he might cut it off by one blow. Turning our eyes to Nero, we discover him indulging in equal atrocities, causing Britannica to be poisoned,—murdering his own mother,—setting fire to Rome in four quarters at once, and ascending a tower to enjoy the spectacle of the conflagration. In modern times, we are presented with the horrors of the Sicilian Vespers, the carnage of St. Bartholomew's, and the massacres of the French Revolution. These actions are inexplicable, on the supposition that no propensity of Destructiveness exists; and, if the metaphysicians had applied their systems to human conduct, they must have discovered that they contained no principle, capable of accounting for the transactions alluded to. In the ancient busts of Nero, the organ of Destructiveness is represented as enormously large.

Dean Swift has given, through the medium of Gulliver, the following vivid description of the effects of too active Combativeness and Destructiveness :—"I could not," says Gulliver, "forbear shaking my head and smiling a little at the ignorance of the Houyhnhnm. And being no stranger to the art of war, I gave him a description of cannons, culverins, muskets, carabines, pistols, bullets, powder, swords, bayonets, battles, sieges, retreats, attacks, undermines, countermines, bombardments, sea-fights, ships sunk with a thousand men, twenty thousand killed on each side, dying groans, limbs flying in the air, smoke, noise, confusion, trampling to death under horses' feet, flight, pursuit, victory; fields strewed with carcasses, left for food to dogs and wolves and birds of prey; plundering, stripping, ravishing, burning, and destroying. And to set forth the valor of my own dear countrymen, I assured him, that I had seen them blow up a hundred enemies at once in a siege, and as many in a ship; and beheld the dead bodies drop down in pieces from the clouds, to the great diversion of the spectators."

The organ is large in the heads of cool and deliberate murderers. It is very large, and Benevolence small, in the skull of Bellingham, who murdered Mr. Percival. The temporal bones protrude at least half an inch in the situation of the organ of Destructiveness, on each side, and the frontal bone presents a receding surface at the organ of Benevolence, where the skulls of individuals remarkable for benevolence generally rise into an elevation of half an inch or more. A cast of Bellingham's skull may be inspected in the Phrenological Society's Collection. The organ of Destructiveness is also largely developed in the skull of Gordon, who accompanied a poor half-fatuous pedlar boy, and, in the middle of a muir, beat out his brains with the heel of his clog, and robbed him of his pack, not worth twenty shillings. The skull itself is in the Society's Collection, and the bones protrude nearly half an inch on each side at the region in question. It is large in Charles Rotherham, who pulled a stake from a hedge and beat out the brains of a poor woman on the highway, and robbed her of some very trifling articles. It is large also in the skulls of Hussey, Nisbet, and Lockey, who were executed for murder. It is very large, with deficient moral organs, in Burke and Hare, who murdered sixteen human beings, for the sake of the price of their dead bodies as subjects for dissection. See page 80. It, and the organ of Acquisitiveness, appear to have been very largely developed in the head of Heaman, executed at Edinburgh, for piracy and murder; also in the head of Robert Dean, executed for murdering a child without any rational motive; and in the head of Mitchell, executed for murdering a young woman whom he had seduced. In the heads of David Haggart and Mary Macinnes, executed at Edinburgh, and of Booth, a poacher, executed at York, all for murders committed on the impulse of the moment, it appears considerably developed; while in them Combativeness is also very large. The organ is moderately developed in the Esquimaux and they are strangers to cruelty and ferocity. It is very large in the Papuan Islanders and they are prone to murder.

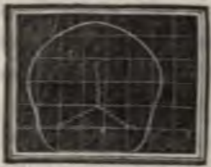
The Society possesses casts of the skulls of five Charibs, who are well known to be a ferocious tribe, and in all of them the organ of Destructiveness is decidedly large. On the other hand, Dr. George Murray Patterson, surgeon in the Honorable East India Company's service, mentions, as the result of three thousand actual examinations, that the organ is small in the heads of Hin doos in general, who are known to be extremely tender in regard to animal life. In the skulls of fourteen Hindoos, twelve of which were presented to the Society by this gentleman, and two by Dr. J. S. Combe of Leith, the developement of the organ will be found to be decidedly less than in the skulls of Europeans in general. The figures represent the skulls of Bellingham and a Hindoo.

BELLINGHAM.



Destructiveness Large.

HINDOO.



Destructiveness Small.

When excited by intoxication, the organ sometimes becomes ungovernable; and hence arises the destruction of glasses, mirrors, chairs, and every frangible object at the close of many a feast. Hence also the temptation, often almost irresistible, experienced by many a worthy citizen, when inebriated, to smash a lamp in his progress home. One gentleman assured me that the lamps have appeared to him, when in this state, as it were twinkling on his path with a wicked and scornful gleam, and that he has frequently lifted his stick to punish their impertinence, when a remnant of reason restrained the meditated blow. In him Destructiveness is decidedly large, but, when sober, there is not a more excellent person.

The organ is also liable to excitement by disease, and then the propensity is manifested with irresistible vehemence. The author of Sketches in Bedlam, describes the case of Pat. Walsh, a ferocious maniac, who has been deranged altogether about twelve years, and has, it is said, uniformly evinced a character of desperation, vengeance, and sanguinary cruelties, scarcely conceivable even in madness. Notwithstanding every precaution that was taken, he has killed three persons since his confinement. "His propensity to mischief, malice, and personal abuse, is as incessant as his taste for bloodshed and slaughter. He has contrived, notwithstanding his restriction of hands and feet, to break about seventy panes of glass within the last two years, in the dining-room windows, although guarded on the inside by a strong iron wire lattice-work. This amusement he contrived to effect by standing on a form placed at some distance from the windows, and, taking the bowl of his wooden spoon in his mouth, he poked the handle through the meshes of the wire-work, and thus broke the pane." As this man is said to be confined in an iron cincture that surrounds his waist, with strong hand-cuffs attached to it, I infer that he is the same whose head I examined in Bedlam in 1824, and in whom the organs of Combativeness and Destructiveness were inordinately large.

When this organ and Combativeness are very large, combined with great deficiency in the moral and intellectual organs, there is an innate disposition to mischief and violence which renders the individual dangerous to society. In visiting the Richmond Lunatic Asylum in Dublin, in 1829, a man was presented to me by Dr. Crawford, substitute physician, and I wrote down the following remarks:

Mr. Combe's Remarks

Patient's name, E. S.

Large	Amativeness
Do.	Philoprogenitiveness
Very large	*Destructiveness*
Do.	*Combativeness*
Large	Self-esteem
Do.	Cautiousness
Moral organs, deficient, particularly	Veneration and Hope
Moderate	Conscientiousness
Of the moral organs	Benevolence is rather well developed.
Intellectual organs	Rather well developed.

The patient was withdrawn, and Mr. Combe added: This is the worst head I ever saw. The combination is worse than Hare's.—Combativeness and Destructiveness are fearfully large, and the moral organs altogether very deficient: Benevolence is the best developed of them, but it is miserably small compared with the organs of Combativeness and Destructiveness. I am surprised that that man was not executed before he became insane.

Dr. Crawford had previously written down, and then exhibited, the following observations:

Dr. Crawford's Remarks.

Patient E. S., aged 34. Ten years since first admission.

Total want of moral feeling and principle, great depravity of character, leading to the indulgence of every vice, and to the commission even of *crime*. Considerable intelligence, ingenuity, and plausibility; a scourge to his family from childhood; turned out of the army as an incorrigible villain: attempted the life of a soldier; repeatedly flogged; has since attempted to poison his father.

In preparing a report of this and other cases for the Phrenological Journal, I sent the proof sheet to Dr. Crawford for revisal, which he returned along with a letter to the following effect: "I have a few remarks to make on the lunatic, lettered *E. S.* You observe in your own notes, 'I am surprised he was not executed before he became insane.' This would lead to the supposition, that he had been afflicted with some form of insanity in addition to a naturally depraved character. Such, however, is by no means the case; he never was different from what he now is; he has never evinced the slightest mental incoherence on any one point, nor any kind of hallucination. It is one of those cases where there is great difficulty in drawing the line between extreme moral depravity and *insanity*, and in deciding at what *point* an individual should cease to be considered as a responsible moral agent, and amenable to the laws. The governors and medical gentlemen of the Asylum have often had doubts whether they were justified in keeping E. S. as a *lunatic*, thinking him a more fit subject for a bridewell. He appears, however, so totally callous with regard to every moral principle and feeling—so thoroughly unconscious of ever having done any thing wrong—so completely destitute of all sense of shame or remorse when reproved for his vices or crimes—and has proved himself so utterly incorrigible throughout life, that it is almost certain that any jury before whom he might be brought would satisfy their doubts by returning him *insane*, which in such a case is the most humane line to pursue. He was dismissed several times from the Asylum, and sent there the last time for attempting to poison his father, and it seems fit he should be kept there for life as a *moral lunatic;* but there has never been the least symptom of *diseased* action of the brain, which is the general concomitant of what is usually understood as *insanity*. This I consider might with propriety be made the foundation for a division of lunatics into two great classes; those who were *insane* from *original constitution*, and never were otherwise, and those who had been *insane* at some period of life from diseased action of the brain, either permanent or intermittent.—There would be room for a few additional notes to the case of E. S., explanatory of what I have said, if you think fit."—*Dublin, 20th July*, 1829.

Dr. Gall cites a variety of cases of diseased manifestations of this propensity, which had fallen under his own observation, and quotes several others highly illustrative from Pinel. I select one of these, in which the organ of Destructiveness seems to have been affected singly, the other organs remaining entire. The patient, during periodical fits of insanity, was seized with an "uncontrollable fury, which inspired him with an irresistible propensity to seize an instrument or offensive weapon, to knock on the head the first person who presented himself to his view. He experienced a sort of internal combat between this ferocious impulse to destroy, and the profound horror which rose in his mind, at the very idea of such a crime. There was no mark of wandering of memory, imagination, or judgment. He avowed to me, during his strict seclusion, that his propensity to commit a murder was absolutely forced and involuntary,—that his wife whom he tenderly loved, had nearly become his victim, he having scarcely had time to bid her flee to avoid his fury. All his lucid intervals were marked by melancholy reflections and expression of remorse; and so great did his disgust of life become, that he had several times attempted, by an act of suicide" (this is common in the excess of Destructiveness) "to bring it to a close. What reason have I," said he, "to cut the throat of the superintendent of the hospital, who treats us with so much kindness? and yet in my moments of fury I am tempted to rush upon him, as well as others, and plunge a dagger in his bosom.

It is this unhappy and irresistible propensity which reduces me to despair, and makes me attempt my own life."—*Sur l' Alienation Mentale*, deuxième édition, p. 102 et 103. sect. 117.

Individuals who occasionally commit murder, or set fire to property, without any rational motive, sometimes ascribe their actions to the temptation of the devil, asserting that the devil whispered into their ears, "kill him," "kill him," and never ceased to repeat the exhortation till they had complied with it. Diseased activity of this organ, filling the mind habitually with a desire to destroy, probably gives rise to this impression.

One form in which disease of this organ sometimes appears, requires particular notice; it is when it prompts females of the most unquestionable reputation to child-murder. I cite the following from the public newspapers of May, 1822. "On Sunday morning, about half-past ten o'clock, a most horrid murder of unparalleled inhumanity, was perpetrated on the body of a fine female infant, about eight months old, named Sarah Mountford, by her own mother, wife of Mr. Mountford, weaver, No. 1. Virginia Row, Bethnal Green. The husband, who is a Methodist, had gone to chapel, leaving his wife to clean, and send to the Sunday school, her young family. Having done this, it appeared she cleaned herself and her infant, when, overcome by some extraordinary aberration of intellect, she cut off the head of the child with a razor, and, besmeared with the blood, immediately told the persons in the house of the bloody deed, desiring to be given into custody, as she wanted to be hanged. From the conduct of the wretched woman after the transaction, no doubt can be entertained of her insanity. Mrs. Mountford underwent a short examination on Monday, and was committed for trial. A coroner's inquest has been held, which returned a verdict of wilful murder against the wretched woman. The distress of the family is extreme. The unhappy husband and two of the eldest daughters are seen running about the streets in a state of distraction. One of the latter has been deprived of utterance since the horrid transaction." This woman is said to have been "overcome by some extraordinary aberration of intellect;" which mode of expression may be for-given in the writer of a newspaper paragraph, although, viewed philosophically, it is absurd. The intellectual powers enumerated by the metaphysicians, such as Perception, Conception, Memory, Imagination, and Judgment, furnish no propensities to action, which, being deranged, could produce such a piece of barbarity. Derangement of intellect causes the patient to reason incorrectly, and speak incoherently; but if his *feelings* be sound, he is not mischievous. Here, however, the unhappy woman seems to have been inspired with a blind and irresistible impulse to kill, arising from disease of Destructiveness.

These details are exceedingly painful, and the reader may question the taste which permits their insertion; but great ignorance prevails in the public mind on this subject, and the records of our criminal courts still show cases of wretches condemned to the gallows, who, if Phrenology were known to the judges and juries, would be consigned to a lunatic asylum.

This organ is larger in the male head than in the female; and hence the male head is in general broader. The manifestations correspond: for the propensity is less vigorously manifested by woman than by man.

As already noticed, the organ is common to man with carnivorous animals. Dr. Gall, however, remarks, "that the organ is not, in all carnivorous animals, situated with rigorous exactness above the external opening of the ear. Among some species of birds, for example, in the stork, the cormorant, the heron, the gull, &c., the external opening of the ear is considerably drawn back, and the organ of the propensity to kill is placed immediately behind the orbits, forming a large prominence upon each side, the size of which is found to bear an uniform proportion to the degree in which the animal manifests the propensity to kill. In comparing the crania of carnivorous birds with the skulls of those that can live indifferently either upon animals or vegetables, this prominence is found to be less conspicuous in the latter; in the duck, for example, and in the different species of thrushes; and it becomes less and less prominent in proportion as the birds exhibit a more distinct preference for vegetables, such as the swan, the goose," &c.

The differences are illustrated by plates in Dr. Gall's work. If the brain of a sheep and that of a dog be compared, a great deficiency will be discovered in the former at Destructiveness.

In 1827, Monsieur Vimont presented to the Royal Institute of France, a memoir on Comparative Phrenology, in which he brings forward a vast collection of most interesting facts, in regard to the dispositions and forms of the brain in the lower animals. In regard to Destructiveness, he says, "All animals which live on flesh, or which have a propensity for destroying, have a particular part of the cranium whose developement corresponds with that of this faculty. Thus all the *feræ*,* without exception, have the squamous portion of the temporal bone † enlarged in a perceptible manner. We may cite as examples, the tiger, the cat, the fox, the martin, the weasel, the ermine.

"In the carnivorous birds properly so called, the portion of the cranium situated behind the orbit, corresponds with the organ of carnivorous instinct, and presents a remarkable developement. In the omnivorous birds, the enlargement is a little more posterior."

The organ is established.

ALIMENTIVENESS, OR ORGAN OF THE APPETITE FOR FOOD.

It early occurred to Drs. Gall and Spurzheim, that the appetite for food is an instinct not referable to any of the recognised principles of mind, and they therefore were disposed to view it as a primitive power, having a separate organ; but they did not discover its situation.

In the sheep, the olfactory nerves, which are very large, are perceived to originate from two cerebral convolutions, lying at the base of the middle lobe of the brain, adjoining and immediately below the situation occupied by the organs of Destructiveness in carnivorous animals. The sheep is guided in the selection of its food by the sense of smell; and the inference suggests itself, that these parts may be the organs of the instinct which prompts it to take nourishment. Corresponding convolutions occur in the human brain, but the functions of them are not ascertained, owing to their local situation presenting obstacles to the determination of their size during life. The conjecture, however, seemed to me plausible, that they might serve a similar purpose to that here supposed to belong to them in the sheep.

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* Beasts of prey.

† Situated immediately outward of Destructiveness.

This subject has attracted the notice of that ingenious phrenologist Dr. Hoppe of Copenhagen, and he has treated of it in two valuable communications, published in the Phrenological Journal, Nos. V. and VII. He is of opinion, that, besides the nerves of the stomach and palate, an affection of which gives rise to the sensations of hunger and thirst, there must also be an organ in the brains of animals for the instinct of *nutrition* (taking nourishment for the preservation of life,) which incites them to the sensual enjoyments of the palate, and the activity of which is *independent* of hunger and thirst. "How," says he, "should the mere sense of hunger, more than any other disagreeable or painful sensation, make the animal desire food, the necessity of such not being known to him by experience? This could only be effected by *instinct*, because either an instinct, *i. e.* the immediate impulse of an organ, or else experience and reflection, are the causes of all actions.

"We observe, that the chicken is no sooner out of the egg, than it picks the grain that lies on the ground, and the new-born babe sucks the nipple. Is this to be explained without the supposition of an organ analogous to that which makes the duckling immediately plunge into the water, or makes the kitten bite the first mouse it meets with?

"Neither am I able otherwise to conceive how the new-born animal can discriminate what is useful for its nutrition; that, for instance, the chicken never mistakes gravel for grain, and that the wild beasts always avoid poisonous plants without ever tasting them.

"When the child, even enjoying perfect health, sucks till the stomach is filled, in a literal sense of the word, it surely feels no hunger or thirst; yet, if laid to the breast, it will continue sucking, even sometimes having thrown off the last draught from overfilling.

"If nothing but hunger and thirst impelled man to take food, he would, when satiated, have no appetite for meat and drink; yet we every day observe people that cannot resist the temptation of surfeiting themselves both with meat and drink, though they know it to be noxious, and others again that never are tempted to gluttony."

Dr. Hoppe adds several other reasons in support of an organ of nutrition, and sums up his views in the following words:—"According to my opinion, *hunger* and *thirst* must be discriminated from the desire of food which we call *appetite*; for those I consider as only affections of the stomachical and palatic nerves, caused by deficiency of necessary supply; but appetite as an activity of a fundamental animal instinct, which has in the brain an organ analogous to the rest of the organs. Yet there is a very intimate connexion between these; thus, nothing can more effectually rouse appetite than hunger."

In lecturing on Phrenology, I had for some years pointed out the part of the brain above alluded to as the probable seat of this organ; and Dr. Hoppe, without being aware of this circumstance, or the reasons on which this conjecture was founded, arrived at a similar conclusion. He proceeded even so far as to point out an external indication of the size of the organ. "Regarding," says he, "the organ for taking nourishment, I have been led to think, since I wrote last, that the place where its different degrees of developement are manifested in the living body, is in the *fossa zygomatica, exactly under the organ of Acquisitiveness, and before that of Destructiveness.* Before I had thought at all of Phrenology, I was struck with the remarkable largeness of the face or head of a friend of mine, caused, not by prominent cheek-bones, as in some varieties of mankind, but more towards the ears, by the great convexity of the zygomatic arch. Knowing that this individual was exceedingly fond of good living, and that, even in spite of a very powerful intellect, and propensities moderate in almost every other respect, he was prone to indulge too freely in the joys of the table, I afterwards thought that this form of the head, and tendency of the mind, might bear a nearer relation to each other than had at first occurred to me; and in some other persons, notoriously known to be fond of good eating and drinking, I found a confirmation of my suppositions. This prominence of the bony arch, I think, must be an absolute consequence of the part of the cranium lying under the temporal muscle being pushed outwards, and diminishing, in that direction, the space of the *fossa.* Besides this greater convexity of the arch, the part also of the skull situated immediately above it, under the organ of Acquisitiveness, will in this case be observed to be more full and protruding. The largeness of head produced in this way can by no means be mistaken for a mere prominent cheek-bone, nor for the organs of Acquisitiveness, or Destructiveness, or Constructiveness, situated higher, behind, and in front of it. Having found the said parts in some persons much compressed, in others less so, and, as I think, the disposition of mind always proportionate to it; and not yet having met with any exceptions, I cannot but hold my opinion to be true."

I have been informed that Mr. Crook also, without knowing Dr. Hoppe's remarks, had arrived at a similar conclusion as to the situation of the organ.

The external part to which Dr. Hoppe alludes, was formerly included by Dr. Spurzheim within the limits of Destructiveness; but in Dr. Gall's busts and plates, that organ was not carried so far forward, and the function of the part in question was marked by Dr. Gall as unascertained. Dr. Spurzheim now coincides in the soundness of the views of Dr. Hoppe, and the organ is regarded as probable. The part of the brain indicated by these gentlemen is different from the convolutions corresponding to that in which the olfactory nerves originate in the sheep. In the human brain the function of that part is therefore still unascertained.

ORGAN OF THE LOVE OF LIFE.

In conversing with a variety of individuals about their mental feelings, no fact has more forcibly arrested my attention than the difference which exists in the love of life. It will be assumed by many, that this is an universal desire, glowing with equal intensity in all; but this is not the fact. All possess the feeling, but its degrees vary much more than is generally imagined. Some individuals desire life so intensely, that they view death as the greatest calamity; they declare, that rather than part with existence, they would submit to live in endless misery; the bare idea of annihilation is unsupportable to their imaginations;—and they found an argument for immortality on the position that God cannot be guilty of the injustice of making them conscious of so great a boon as life, and subsequently depriving them of it; to nave lived, according to them, gives an indefeasible title to continue to live. Other individuals, again, experience no such passion for existence; they regard pain and parting with the objects of their affections, as the chief evils of death; so far as the mere pleasure of living is concerned, they are ready to surrender it with scarcely a feeling of regret; they discover nothing appalling in death, as the mere cessation of being; and do not feel the prospect of immortality to be essential to their enjoyment of the present life. I have found these different feelings combined with the most opposite dispositions in all other respects; the great lovers of life were not always the healthy, the gay and the fortunate; nor were those who were comparatively indifferent to death, always the feeble, the gloomy and misanthropic; on the contrary, the feeling exists strongly and weakly in these opposite characters indiscriminately.

Neither does the difference depend on the moral and religious qualities of the individuals; for equal morality and religion are found in combination with either sentiment. This is a point in human nature not generally adverted to; nevertheless, I have obtained so many assurances of the existence of these different feelings, from individuals of sound judgment and unquestionable veracity, that it appears to me highly probable, that there are a special faculty and organ for the Love of Life. We seem to be bound to existence itself by a primitive instinct, just as we are led by other instincts, to provide for its continuance and transmission. The organ is probably situated in the base of the brain.

The only fact tending to illustrate its position, is one observed by Dr. A. Combe, and recorded in the Phrenological Journal, vol. iii. p. 471. In describing the dissection of the brain of a lady upwards of sixty, who for many years had been remarkable for continual anxiety about her own death, he observes, that "the enormous developement of one convolution at the base of the middle lobe of the brain, the function of which is unknown, was too striking not to arrest our attention; it was that lying towards the mesial line, on the basilar and inner side of the middle lobe, and consequently of Destructiveness. The corresponding part of the skull showed a very deep and distinctly-moulded cavity or bed running longitudinally, with high and prominent sides, and presenting altogether an appearance much more striking than in any skull I ever saw. From the situation of this convolution, its developement cannot be ascertained during life, and hence its function remains unknown. Whether it may have any connexion with the Love of Life is a circumstance which may be determined by future observations; all that we can say at present is, that the Love of Life, seems to be a feeling *sui generis*, and not proportioned to any faculty, or combination of faculties, yet known,—that in the subject of this notice it was one of the most permanently active which she possessed,—and that in her the convolution alluded to was of very unusual magnitude; but how far the coincidence was fortuitous, we leave to time and observation to determine."

7.—SECRETIVENESS.

THE organ is situated at the inferior edge of the parietal bones, immediately above Destructiveness, or in the middle of the lateral portion of the brain. When the organ of Destructiveness is much developed, it may be mistaken, by the inexperienced observer, for the organ of Secretiveness; so that it is necessary to remark, that the latter organ is placed higher, and rather farther forward, than the former; and that, instead of presenting the form of a segment of a circle, it is extended longitudinally. When both organs are highly developed, the lower and middle portion of the side of the head is characterized by a general fulness.

Dr. Gall gives the following history of the discovery of this organ. In early youth, he was struck with the character and form of the head of one of his companions, who, with amiable dispositions and good abilities, was distinguished by cunning and finesse. His head was very large at the temples, and in his natural attitude it projected forward. Although a faithful friend, he experienced an extraordinary pleasure in employing every possible device to make game of his school-fellows, and to deceive them. His natural language was absolutely the expression of cunning, such as Dr. Gall had often observed in cats and dogs, when, playing together, they wished to give each other the slip. At a subsequent period, he had another companion, who, at first, appeared candor personified; no one had ever distrusted him; but his gait and manner were those of a cat watching a mouse; he proved false and perfidious, and deceived, in an unbecoming manner, his young school-fellows, his tutors, and his parents. He carried his head in the same attitude as before mentioned; his figure was handsome; and his head exceedingly large at the temples. One of Dr. Gall's patients, who died of phthisis, generally passed for a very honest man: after his death, Dr. Gall was struck with the largeness of his head in the temporal region; and shortly afterwards learned, that he had cheated his acquaintances, and even his mother, of considerable sums of money. At Vienna he was often in the company of a physician, possessed of much information, but who, on account of his character of a cheat, was generally despised. Under pretence of dealing in objects of art, and lending on pledges, he robbed all who put confidence in him. He carried his tricks and cheats to such a length, that the government warned the public, through the medium of the public journals, to beware of him; for he had practised his arts with such dexterity, that he could never be legally condemned. He often told Dr. Gall, that he knew no pleasure equal to that of deceiving, especially persons who distrusted him most. As the head of this individual also was very large at the temples, Dr. Gall was impressed with the idea that there is a primitive tendency towards cunning in the mind, and that it is manifested by this particular cerebral organ. An immense number of observations have confirmed his conjecture.

The nature and object of this propensity appear to be the following: The various faculties of the human mind are liable to involuntary activity from internal causes, as well as from external excitement. Thus, Amativeness becoming active, gives feelings corresponding to its nature: Acquisitiveness inspires with strong desires for wealth; and Love of Approbation fills the mind with projects of ambition. Every one will be conscious that these or similar feelings, at times rush into his mind involuntarily, and frequently refuse to depart at the command of the understanding. If outward expression were given to these impulses, in all their vivacity, as they arise, social intercourse would be disfigured by a rude assemblage of disgusting improprieties, and man would shun the society of his fellows as more loathsome than pestilence or famine. Shakspeare, with that accuracy of observation which distinguishes him, has pourtrayed this feature of the human mind.

> "Utter my thoughts? Why, say they are vile and false—
> As where 's that palace, whereinto foul things
> Sometimes intrude not? Who has a breast so pure
> But some uncleanly apprehensions
> Keep leets and law-days, and in session sit
> With meditations lawful?" — *Othello*, Act iii. Scene 3.

Some instinctive tendency, therefore, to restrain within the mind itself, to conceal, as it were, from the public eye the various desires and emotions which involuntarily present themselves in the mind, was necessary to enable the understanding to regulate their outward expression; and nature appears to have provided this power in the faculty of Secretiveness. It is an instinctive tendency to conceal, and the legitimate object of it appears to be, to restrain the outward expression of our thoughts and emotions, till the understanding shall have pronounced judgment on their propriety.

Besides, man and animals are occasionally liable to the assaults of enemies, which may be avoided by concealment, in cases where strength is wanting to repel them by force. Nature, therefore, by means of this propensity, enables them to add prudence, slyness, or cunning, according to the direction given to it by other faculties of the individual, to their means of defence.

A sufficient endowment of this organ is essential to the formation of a prudent character. It then imposes a salutary restraint on the manifestations of the other faculties, and serves as a defence against prying curiosity. "When Napoleon," says Sir Walter Scott, "thought himself closely observed, he had the power of discharging from his countenance all expression, save that of a vague and indefinite smile, and presenting to the curious investigator the fixed eyes and rigid features of a marble bust." Vol. iv. p. 37. I have observed this power to be conferred by large Secretiveness. Those in whom it is deficient, are too open for the general intercourse of society ; they are characterized by deficiency of tact, a headlong bluntness of manner, and the instantaneous expression of every thought and emotion, as it flows into the mind, without regard to the proprieties required by time, place or circumstances.

Mr. Scott, in an excellent essay on this propensity, published in the Phrenological Transactions, observes, that it communicates the desire to discover the secrets of others, as well as to conceal our own. The author of Waverley, in his novel of Quentin Durward,* draws the character of Louis XI. with exact fidelity to this principle of our nature. The King, says he, was "calm, crafty, and profoundly attentive to his own interest. He was careful in disguising his real sentiments and purposes from all who approached him, and frequently used the expressions,—that the King knew not how to reign, who knew not how to dissemble; and that, for himself, if he thought his very cap knew his secrets, he would throw it into the fire. Like all astutious persons, he was as desirous of looking into the secrets of others, as of concealing his own." This representation is historically correct. According to this view, even a large developement of the organ, if combined with good sentiments, and an enlightened understanding, is a valuable endowment. Persons so constituted, possessing themselves the natural talent requisite for intrigue, if they choose to direct the faculty in that way, are naturally fitted to divine and discover intrigues and secret machinations in others, and to defeat them. From the same cause they read, with great acuteness, the natural language of concealment in other minds, and are able to discover, by the very air and manner of a man, that he is hiding some object or intention, when a person, in whom the organ is small, could not perceive such a purpose. In many of the affairs of life also, secrecy is indispensable both to prudent conduct and success.

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* Vol. i. p. 7.

When too energetic, or not properly directed, Secretiveness is liable to great abuses. It then leads to a liking for concealment, intrigue, and crooked policy, for their own sakes; and to a feeling that it is wise and clever to wrap up the purposes of the mind in the profoundest mystery: cunning is mistaken for ability, and deceit for practical wisdom. It may prompt to the use of lies, hypocrisy, intrigue, or dissimulation, as means to gain an end. Persons in whom it predominates, judging of mankind in general by themselves, are never able to see the affairs of the world, or the conduct of others, in a plain and simple point of view, but imagine life to be a continual stratagem, in which every one is endeavoring to overreach his neighbor. Such persons conceive, that the eye of the world is always looking into their breasts, to read the purposes that are there hatched, but which discovery they are resolved to prevent. The propensity in some instances finds gratification in the most trifling mysteries; an individual under its predominating influence will conceal his going out, his coming in, his engagements, and all his transactions; even although communication of these would greatly facilitate domestic arrangements. In an argument a secretive man will evade all admissions.

Dr. Johnson mentions of Pope, that he took so "great delight in artifice, that he endeavored to attain all his purposes by indirect and unsuspected methods; he hardly drank tea without a stratagem. He practised his arts on such small occasions, that Lady Bolingbroke used to say in a French phrase, that he played the politician about *cabbages and turnips.*"

Mercantile men, in whom this organ predominates, occasionally conceal their circumstances, so that wife and children proceed in the unsuspecting enjoyment of imagined prosperity, till bankruptcy, like the explosion of a mine, involves them in instantaneous ruin. These individuals generally plead in excuse, a pretended regard to the feelings of their relatives : but the distrust implied in such conduct, is a greater injury to sensitive minds, than the evils they attempt to hide. The real sources of their conduct are an overweening Self-esteem, which cannot stoop to acknowledge misconduct or misfortune, and an inordinate Secretiveness, inspiring them with an instinctive aversion to candid and unreserved communication. A favorite maxim with such men, is, that secrecy is the soul of trade. It is so, only in narrow minds misguided by this propensity.

Persons in whom this organ is large, and who believe that they really conceal their true character from the world, are much startled at the exposure which Phrenology is said to make of the dispositions of the mind, and they feel great difficulty in believing it practicable to compare genuine mental feelings with developement of brain, because they imagine that real motives and dispositions are never exhibited in conduct. Such persons err, however, in their estimate even of their own powers of concealment; for, Secretiveness does not alter the aim, but affects only the means of obtaining gratification of our ordinary desires; and, besides, if disguise be really the forte of their character, Phrenology has the advantage of them still; for it exhibits the organ of Secretiveness large, and in their very concealment they will manifest most powerfully the faculty whose organ is most fully developed.

Innumerable abuses of this propensity occur in the ordinary intercourse of society. How polite, acquiescent, and deferential, are some persons in their manners to all who are present ; and how severe in their vituperations, when the same individuals are gone ! This conduct results from Secretiveness addressing itself to Love of Approbation in others, and endeavoring to please them by professions of feigned respect. Many persons would not, for any consideration, mention a disagreeable truth to an acquaintance. This also arises from an abuse of the same faculty, combined with great Love of Approbation.

To Mr. Scott is due the merit of throwing great light on the influence of Secretiveness in producing humor. The power of representing, with a face of perfect gravity, some ludicrous incident, is one species of humor. In this, the grave exterior, the command over the outward expression of the face, while the most ludicrous ideas are internally perceived, is just a species of slyness, and is clearly attributable to Secretiveness. This kind of humor also is absolutely addressed to Secretiveness in others. We, as spectators, see the internal absurdity through the external gravity, and this gratifies our Secretiveness, which likes to penetrate disguises assumed by others, as well as to disguise itself. Another species of humor consists in detecting and exposing little concealed purposes and intentions in our friends, and holding them up to view in all their nothingness, when they are mystifying or concealing them as matters of real importance. "The man of humor," says Mr. Scott, "delights in detecting these little pieces of deception: and the *ludicrous* effect of this seems to arise from the incongruity which appears between the real and the assumed character, the contrast between what is intended to be apparent at the surface, and that which is seen to be at the bottom." It is proper to observe, however, that Secretiveness affords only the slyness, the *savoir faire*, together with the tact of detecting little concealed weaknesses implied in humor; and that the faculty of Wit is necessary, in addition, more or less, to produce ludicrous effect in the representation. Thus, a person with much Wit, and little Secretiveness, will not excel in humor, although he may shine in pure wit. A person, on the other hand, with much Secretiveness, and moderate Wit, may excel in humor, although, in intellectual witty combinations, he may make but an indifferent figure. It is a curious fact, that the Italians and English, in whom Secretiveness is large, delight in humor, while the French, in whom the organ is moderate, can scarcely imagine what it is. In conformity with these differences in national developement, the English and Italians practise a prudent reserve in their intercourse with strangers, while the French are open to excess, and communicate even their private affairs to casual acquaintances. The French also delight to live, and even to die, in public; while the Englishman shuts himself up in his house, which he denominates his castle, and debars all the world from observing his conduct. Other faculties contribute to these varieties of taste, but Secretiveness is an essential element in the relish for retirement.

I have uniformly found Secretiveness large in the heads of actors and artists, and, of these, I have been permitted to examine a considerable number. In the cast of Miss Clara Fisher's head, it will be seen amply developed. The theory of its effects in aiding the former seems to be this: The actor must conceal or shade his real character, and put forth the natural language of an assumed one. Now, Secretiveness will enable him to suppress or withhold all the faculties which are not essential to the personage whom he, for the time, represents; while, by withdrawing its restraints from other faculties, it will allow them to manifest themselves with full energy. Thus, suppose an actor, in whom Benevolence and Conscientiousness are large, to be called on to play Iago, a character in which selfishness and villany predominate, then Secretiveness will enable him to suppress the natural language of his own superior faculties, while, by withdrawing its influence from Combativeness, Destructiveness, and Self-Esteem, it will permit the most forcible expression of these in looks, tones and gestures; and this will be Iago to the life. It aids the artist in a similar way. It is known, that a painter or sculptor, in working a figure, studies first the mental feelings which it is intended to pourtray, then goes to a mirror, and produces the expression of them in his own person, and copies it in his picture or block of marble. In this process, he resembles an actor, and Secretiveness assists him in the manner before explained. In this analysis, I differ in one point from Mr. Scott. He thinks that Secretiveness confers not only the negative power of suppressing the real character, but also the positive power of calling up, at will, the natural language of such faculties as we wish to exhibit for the time. Thus, some persons are able to load others with expressions of great esteem, attachment, and good will, when internally they hate them. Mr. Scott conceives that Secretiveness enables such individuals not only to disguise their real enmity, but to call up for the occasion the natural language of Adhesiveness, Benevolence, Veneration, and Love of Approbation, and to use these as instruments of deception. This latter effect appears to me to depend on Imitation.

When Secretiveness and Cautiousness are both very large, there is a great tendency to extreme reserve, and even, when little knowledge of the world is possessed, to suspicion and terror of dark designs and sinister plots, hatching on every hand against the unhappy possessor of this combination. In general, these plots have no existence beyond the internal feelings produced by those faculties.

Secretiveness, with small Conscientiousness, predisposes to lying, and, combined with Acquisitiveness, to theft. Indeed, Secretiveness is more invariably large in thieves than Acquisitiveness; and it prompts to this crime, probably by the feeling of secrecy which it generates in the mind. It gives the idea that all is hidden, and that no eye sees, and no intellect will be able to trace the fraud. It produces also that capacity for sly cunning which is essential to a thief. An excellent elucidation, by Dr. Andrew Combe, of the effects of Secretiveness, as a constituent element in the character of a thief, will be found in the Phrenological Journal, vol. i. p. 611. The organ is large in David Haggart, and in a variety of executed thieves, whose casts have been obtained. It is large, also, in John Gibson, a boy who manifested very extraordinary powers of deception at eight years of age. His case is reported at full length, by Mr. David Bridges *junior*, in the Phrenological Transactions, vol. i. p. 289. On 3d December, 1823, I visited in Edinburgh jail, John Reid, a lad of sixteen, under sentence of death (but subsequently respited), for housebreaking and theft. His head was uncommonly large for his years, and the organ of Secretiveness, in particular, was enormously developed. Acquisitiveness also was large, and Conscientiousness deficient. The Reverend Mr. Porteous, chaplain to the jail, mentioned, that Reid's power of concealing his thoughts and feelings was most extraordinary, and that daring and secrecy were manifested in his crime, in a degree that was almost inconceivable. He had mounted on the shoulders of an accomplice to the second story of a dwelling-house, entered by a window, and, although persons slept in the bedrooms of that floor, and the lamp in the lobby was burning, he proceeded down stairs, reached the dining-room, robbed the side-board of plate, and got clear off without being heard.

Another effect of great Secretiveness, especially when aided by much Firmness, is to produce the power of repressing, to an indefinite extent, all outward expression of pain, even when amounting to positive torture. Ann Ross (whose case is reported by Mr. Richard Carmichael of Dublin,*) with a view to excite the compassion of some pious and charitable ladies, thrust needles into her arm to produce disease, and carried the deception so far as to allow her arm to be amputated without revealing the cause. The needles were found on dissection, and she was more mortified by the discovery of the trick, than afflicted by the loss of her arm. She manifested the same faculty in a variety of other deceptions. I examined her head, and Mr. Carmichael also furnished the Phrenological Society with a cast of it, and in it the organs of Secretiveness and Firmness are decidedly large. The North American Indians also are celebrated for their power of enduring torture, and the same combination occurs in casts of two of their skulls in the Society's collection. It is not large in the Negroes, and they are an open minded race compared with the cunning varieties of mankind.

Dr. Murray Patterson mentions, that the Hindoos manifest Secretiveness in a high degree, in the form of cunning and duplicity, and the organ is very large in their heads.

This propensity, when predominantly active, produces a close sly look; the eyes roll from side to side; the voice is low; the shoulders are drawn up towards the ears, and the footstep is soft and gliding. The movements of the body are towards the side. Sir Walter Scott accurately delineates the look produced by this faculty and Cautiousness in the following lines.

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* Phren. Journ. No. v.

Speaking of Cormac Doil, he says,

> "For *evil* seemed that old man's eye
> *Dark and designing, fierce yet shy,*
> *Still he avoided forward look,*
> *But slow and circumspectly took*
> *A circling never ceasing glance,*
> *By doubt and cunning marked at once;*
> Which shot a mischief-boding ray,
> From under eye-brows shagged and gray."
> *Lord of the Isles*, Canto iv. p. 24.

When this organ is very large in the head of an author, it produces a curious effect on his style. The different members of his sentences are involved, parenthetical, and often obscure, as if he were in doubt whether he selected the proper place for his expressions, and hesitated between what he ought to put down and what he might leave to be understood. He is also liable to quaintness. Pope's style occasionally indicates this quality, and the faculty is strongly manifested in his character. Dr. Thomas Brown's style, also, is characterized by Secretiveness, and the organ was large in his head. Croly's poetry presents the expression of it. Goldsmith's writings display a moderate endowment. This faculty, by enabling an author skilfully to work up his incidents and events, and to conceal the *denouement* of his plot or story, till the most appropriate time and place for the elucidation, greatly aids him in producing effect.

It prompts, says Dr. Gall, the general of an army to the use of stratagems to deceive the enemy, while it leads him to conceal his own forces and enterprises, to make false attacks and counterfeited marches.

This organ is possessed by the lower animals, and Dr. Gall remarks, that it requires a particular study in each species. In the common species of ape, for example, it commences above the origin of the zygomatic arch, and extends forward to nearly the middle of this bone. Its situation is the same in the tiger, cat and fox. In carnivorous animals, and in birds distinguished for cunning, this region will also, in general, be found large.

Manifestations of this propensity, clearly attributable to disease of the organ, are described by authors on insanity. The cunning shown by many of the insane, especially in concealing their true state, has often excited astonishment. Foderé speaks of two patients who had been long confined in the asylum at Marseilles. After an apparent cure of considerable duration, their friends demanded their dismissal. He, however, suspected deception, and determined to hold a long conversation with them. For an hour and a half, during which he avoided the kind of ideas in regard to which he knew them to be insane, they spoke, reasoned, and acted like men of sound judgment. But when he introduced the subject which excited their diseased faculties, their eyes began to sparkle, the muscles of the face to contract, and an evident agitation took place, accompanied with an effort to preserve calmness. They were ordered to be detained. Pinel mentions the cunning and tricks of some lunatics as remarkable. Dr. Marshall [*] notices the case of a man in Bethlem Hospital in 1789, who fancied he was a great man. "He was very crafty, and used much flattery to the keepers, calling them 'fine men, gentlemen,' especially when he wanted any indulgence; but when his complacent looks and genteel expressions did not avail him, he became revengeful, made up some plausible story against them, and slyly told it to the steward. When fresh patients came into the house, he always introduced himself to them; he was very civil to them, and, after gaining their confidence, he tried to get their money from them, which, if he could not do by other means, he had recourse to stratagem to get possession of it."

The regular metaphysicians have not admitted any faculty corresponding to this propensity, nor am I aware that they give *any* theory of cunning, although it is an obvious ingredient in human nature. The quality, however, is familiarly recognised by a variety of writers. Lord Bacon, in his Essay on Cunning, graphically describes a number of the abuses of Secretiveness. "We take cunning," says he, "for a sinister or crooked wisdom, and certainly there is a great difference between a cunning man and a wise man, not only in point of honesty, but in point of ability.

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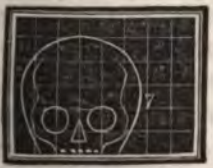
[*] Page 192.

There be that can pack the cards, and yet cannot play well; so there are some that are good in canvasses and factions, that are otherwise weak men." The following illustrations are extracted from this essay:—"I knew," says Bacon, "one that, when he wrote a letter, he would put that which was most material in the postscript, as if it had been a by matter. I knew another that, when he came to have speech, would pass over that he intended most, and go forth and come back again, and speak of it as a thing he had almost forgot. It is strange how long some men will lie in wait to speak somewhat they desire to say; and how far about they will fetch, and how many other matters they will beat over to come near it: it is a thing of great patience, but yet of much use."

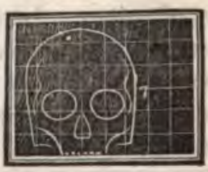
Chesterfield thus counsels his son:—"There are many inoffensive arts which are necessary in the course of the world, and which he who practices the earliest will please the most and rise the soonest. The principle of these things is the mastery of ones temper, and that coolness of mind and serenity of countenance which hinder us from discovering, by words, actions, or even looks, those passions by which we are inwardly moved or agitated; and the discovery of which gives cooler and abler people such infinite advantages over us, not only in great business, but in all the most common occurrences of life. A man who does not possess himself enough to hear agreeable things without sudden bursts of joy and expansion of countenance, is at the mercy of every artful knave or pert coxcomb." To the same effect is a saying of Solomon,—"A fool uttereth all his mind; but a wise man keepeth it till afterwards." (Prov. xxix. 11.)

HINDOO.



Secretiveness large.

CEYLONESE.



Secretiveness small.

In Peveril of the Peak, we have the following dialogue. "Your Grace holds his wisdom very high," said the attendant. "*His cunning at least*, I do," replied Buckingham, "which, in Court affairs, often takes the weathergage of wisdom."

The organ is established.

8.—ACQUISITIVENESS.

THE organ of this faculty is situated at the anterior inferior angle of the parietal bone. By Dr. Spurzheim it was called Covetiveness; Sir G. S. Mackenzie suggested the more appropriate name of Acquisitiveness, which Dr. Spurzheim has since adopted.

The metaphysicians have not admitted a faculty in the mind, the function of which is to produce the propensity to acquire, and which is gratified by the mere act of acquisition, without any ulterior object. Dr. Hutcheson says, "Thus, as soon as we come to apprehend the use of wealth or power to gratify any of our original desires, we must also desire them; and hence arises the universality of these desires of wealth and power, *since they are the means of gratifying all other desires.*" In like manner, we are told by Mr. Stewart, that, "Whatever conduces to the gratification of any natural appetite, or of any natural desire, *is itself desired, on account of the end to which it is subservient;* and by being thus habitually *associated* in our apprehension with agreeable objects, it frequently comes, in process of time, to be regarded as valuable in itself, independently of its utility. It is thus that wealth becomes with many an ultimate object of pursuit; though, at first, it is undoubtedly valued, merely on account of its subserviency to the attainment of other objects."*

The same author says in another place, that "avarice is a particular modification of the desire of power; arising from the various functions of money in a commercial country. Its influence as an active principle is much strengthened by habit and association."†

Dr. Thomas Brown‡ admits the desire of wealth to be a modi fication of the desire of power, but he endeavors to show, that Mr. Stewart's theory is defective in accounting for avarice, and enters into a most ingenious speculation, to explain how that feeling arises from association. He takes *Time* into account, as an ingredient; and takes the example of a boy purchasing an apple. "Before the boy lays out his penny in the purchase of an apple or an orange," says he, "it appears to him valuable, chiefly as the mode of obtaining the apple or orange. But the fruit, agreeable as it may have been while it lasted, is *soon devoured*;—its value, with respect to him, has wholly ceased; and the penny, he knows, is still in existence, and would have been still *his own*, if the fruit had *not* been purchased. He thinks of the penny, therefore, as *existing now*, and existing without any thing which he can oppose to it as equivalent; and the feeling of *regret* arises,—the wish, that he had *not* made the purchase, and that the penny, as still existing, and equally capable as before of procuring some new enjoyment, had continued in his pocket." This produces "a slight terror of expense, which the habits of many years may strengthen into parsimony."

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* Elements, p. 388.

† Outlines, p. 92.

‡ Vol. iii. p. 474.

Nothing can be more ingenious than this speculation, and it is a beautiful instance of the nature of metaphysical science; but it is not sound. The question occurs, Why is this "slight terror of expense" experienced only by some boys and some men, since association and the love of enjoyment are universal qualities of human nature?

It is proper to mention, however, that Lord Kames (who has been censured by the regular metaphysicians for admitting too many faculties,) recognises the existence of this feeling as a primitive propensity in man, and calls it the "hoarding appetite. Man," says his Lordship, "is by nature a *hoarding animal*, having an *appetite* for storing up things of use; and the sense of property is bestowed on men for securing what they thus store up."* He adds, that "the appetite for property, in its nature a great blessing, degenerates into a great curse, when it transgresses the bounds of moderation."

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* Sketches, B. i. sect. 2.

The observer of the passion of avarice in real life, is not satisfied with the theories of Mr. Stewart and Dr. Brown. Dr. King, in the Political and Literary Anecdotes of his own time, remarks, that an avaricious man "is *born* and *framed* to a sordid love of money, which first appears when he is very young, grows up with him, and increases in middle age; and, when he is old, and all the rest of his passions have subsided, wholly engrosses him." He mentions Lord Chancellor Hardwick, the Duke of Marlborough, Sir James Lowther, Sir Thomas Colby, and Sir William Smith, as remarkable instances of it.

The metaphysical notions of Mr. Stewart fail entirely to explain the phenomena of avarice, under which passion no enjoyment is sought, except that of accumulating wealth. The character of Trapbois, as drawn in the "Fortunes of Nigel," and admirably represented on the Edinburgh stage by Mr. Mason, is a personification of the faculty of Aquisitiveness, operating as a blind animal instinct, exalted to the highest degree of energy and activity, and extinguishing every feeling of the mind, except that of fear; which it had cultivated and increased to minister to its protection. This character is recognised as natural; highly colored, indeed, but true to life in its leading features. It appears absurd, therefore, to ascribe, as the metaphysicians do, so intense a passion to a mere law of association as its source, to an error of the understanding, in mistaking wealth for the objects which it is fitted to obtain. The very essence of the character is a desire for wealth, independent of every purpose of application. Phrenologists have observed, that the intensity of the desire to acquire, is in proportion to the size of a certain part of the brain, and they, therefore, regard it as an original propensity of the mind. The organ was discovered in the following manner:

When Dr. Gall was employed in comparing mental manifestations with cerebral developement, he was in the habit of collecting in his house numbers of the lower orders, with the view of more easily discovering the different primitive propensities, which he supposed would be found to operate in them with greater simplicity and vigor, than in persons of a higher rank. On many of these occasions, the individuals assembled, encouraged by him to familiarity, accused each other of petty larcenies, or of what they styled *chiperies*, and took great pleasure in pointing out those who excelled in such practices; and the *chipeurs* themselves advanced in front of their companions, proud of their superior *savoir-faire*. What particularly attracted his attention was, that some of these men showed the utmost abhorrence of thieving, and preferred starving to accepting any part of the bread and fruit which their companions had stolen, while the *chipeurs* ridiculed such conduct, and thought it silly.

To discover whether this tendency to pilfer was connected with any particular cerebral organ, Dr. Gall divided the persons whom he had assembled into three classes: the *first* included the *chipeurs*; the *second*, those who abhorred the very idea of stealing; and the *third*, those who seemed to regard it with indifference. On comparing the heads of these three classes, he was much surprised to find, that the most inveterate *chipeurs* had a *long prominence* extending from the organ of Secretiveness, almost as far as the external angle of the superciliary ridge, and that this region was *flat* in all those who showed a horror of theft, while in those who were indifferent about it, the part was sometimes more and sometimes less developed, but never so much as in the professed thieves; and on repeating the experiment again and again with a new assemblage, he found the same results uniformly present themselves.

Having thus ascertained the constancy of the *facts*, the idea naturally occurred to the mind of Dr. Gall, that the propensity to appropriate must be somehow connected with the peculiarity of cerebral configuration, which had so strongly attracted his notice. It could not be the effect of education, for most of the subjects of his observations had received none. They were the children of nature left to their own resources. Some who detested stealing happened to be precisely those whose education had been most completely neglected. The wants and circumstances of all of them were nearly the same,—the examples set before them were the same,—and to what else, then, could the difference be ascribed, but to an original difference of mental constitution?

At this time Dr. Gall was physician to the Deaf and Dumb Institution, where pupils were received from six to fourteen years of age, without any preliminary education. M. May, a distinguished psychologist, then director of the establishment, M. Venus, the teacher, and he, had it thus in their power to make the most accurate observations on the primitive moral condition of these children. Some of them were remarkable for a decided propensity for stealing, while others did not show the least inclination to it,—some of them were easily reformed, but others were quite incorrigible. The severest punishments were inflicted upon one of them, but without any effect. As he felt himself incapable of resisting temptation, he resolved to be a *tailor*, because, as he said, he could then indulge his inclination with impunity. On examining the heads of all these boys, the same region was found to be uniformly developed, in proportion to the endowment of the propensity. He made casts of those of them who were confirmed thieves, in order to compare them with such other heads of thieves or robbers as might afterwards fall in his way.

About this time, also, Dr. Gall met with another very decisive proof of the connexion between this propensity and a particular developement of brain. In the House of Correction he saw a boy of fifteen years of age, who had been a notorious thief from his earliest infancy. Punishment having had no effect upon him, he was at last condemned to confinement for life as absolutely incorrigible. In a portrait of him in the 26th plate of Dr. Gall's work, a remarkable prominence in the lateral region of the head is conspicuous, corresponding to what is now ascertained to be the organ of Acquisitiveness. The forehead is low, narrow, and retreating, and his intellect is stated to be weak and defective to a great degree; and hence the ascendency and activity of the propensity in question are easily explained.

The instinctive appetite for accumulation, produced by this faculty, viewed only in itself, presents a mean and vulgar aspect, and we are apt to regard the individual, in whom it predominates, as a base and sordid being, cased in selfishness, and dead to every generous feeling. But when we view it in its results, it rises vastly in dignity and importance. The first demand of nature is to live and to enjoy; and without Acquisitiveness the other feelings of the mind would prompt man to kill and eat, or to weave and wear, for the satisfaction of his present wants. But if he bounded his industry by his necessities, and lolled in idleness while not employed in indispensable pursuits, although he might not starve while in possession of health and strength, he would never become rich. Wealth consists of the savings of industry, after supplying immediate demands: Now, according to the metaphysicians, there is no instinctive propensity in man, prompting him, by a natural impulse, to save and to accumulate; they imagine that the calls of nature for immediate gratification, or the love of power, are the only motives to such exertions. In the faculty of Acquisitiveness, however, the Phrenologist perceives an instinct prompting the human being, after his appetites of hunger and thirst are appeased, and his person protected against the elements of heaven, to labor from the mere delight of accumulating; and to the ceaseless industry which this instinct produces, is to be ascribed the wealth with which civilized man is every where surrounded. It prompts the husbandman, the artisan, the manufacturer, the merchant, to activity in their several vocations; and, instead of being necessarily the parent only of a miserable and degraded appetite, it is one of the sources, when properly directed, of the comforts and elegances of life. Its regular activity distinguishes civilized man from the savage. The prodigal, who consumes the last shilling which he can command, dies and leaves not a trace of his existence behind him. The laborious artisan, on the other hand, who, under the impulse of this faculty, consumes only half the produce of his labor, leaves the other half, as a contribution to the stock of national capital, to maintain and set in motion the industry of generations unborn. These, if animated by the same spirit, will leave it with new accessions to their posterity; and thus the stream of public prosperity will be swelled, in an increasing ratio, to the remotest periods of time. When, however, the pursuit of wealth becomes the business of life, Acquisitiveness usurps the place of the moral sentiments, perverts the intellect, and becomes the source of the greatest evils.

The faculty produces a general tendency to acquire, which takes its particular direction from the other faculties with which it is combined. In a great collector of objects of natural history, this organ and Individuality are large: in a collector of pictures, this organ, Constructiveness, and Ideality, are full; in a collector of old coins, Acquisitiveness and Veneration are large. In short, in no instance where the desire to acquire and possess is strongly manifested, is this organ deficient; while, on the other hand, in those in whom there is no appetite for accumulation, who allow their substance to slip through their hands, through incapacity to retain it, I have seen it small. It is a curious fact, that Mr. Owen of New Lanark maintains, that the desire for wealth, or individual property, is not a natural instinct of the human mind; and in his own head, this organ, like that of Destructiveness, the feeling attached to which he also denies, is by no means largely developed. So differently do those feel in whom Acquisitiveness is large, that they desire to acquire for the mere sake of acquisition. If a person so endowed be owner of fifty acres, it will give him infinite delight to acquire fifty more; if of one thousand or one hundred thousand, he will still be gratified in adding to their number. His understanding may be perfectly convinced that he already possesses ample store for every enjoyment, and abundant provision against every want; but yet, if this faculty be active, he will feel his joys impaired, if he ceases to amass. This explains the insatiable nature of the passion to acquire, and the source also of the disappointment generally experienced by persons whose lives have been devoted to commerce, when they retire from business with a view to enjoy the fruits of their industry. The gratification of Acquisitiveness in accumulating wealth, constituted the chief pleasure of their previous lives; and when this propensity ceases to be indulged, and no other faculty has been cultivated with equal ardor, ennui and disgust are the natural and unavoidable results of their new situation.

It has been stated, as an objection to this propensity, that property is an institution of society, and that an organ cannot exist in the brain for a factitious desire. The answer to this argument is, that the idea of property springs from the instinctive suggestions of the faculty in question; and that the laws of society are the consequences, and not the causes, of its existence. They are intended to regulate the desires of mankind for possessions; but this purpose clearly supposes such desires antecedently to exist.

Many persons, in whom Benevolence and Love of Approbation are large, as well as Acquisitiveness, can, with difficulty, believe that the latter influences their feelings. They are so ready to disburse and to bestow that they never accumulate, and hence persuade themselves that they have no tendency to acquire. But such persons are keen in their dealings, they cheapen in making purchases, know where bargains are to be obtained; and, on consulting their own minds, will find that schemes of acquiring property frequently haunt their imaginations. They are also prone to admire the rich. Persons, on the contrary, in whom the organ is small, think of every thing with more interest, and pursue every object with more avidity, than wealth. They may be industrious to live, but there is no intense energy in their pursuit of gain; and their fancies, in building castles in the air, rarely erect palaces of gold, or place happiness in hordes of accumulated riches.

The effects of this faculty are greatly modified by the strength of Self-Esteem. The propensity in question desires to *acquire*; Self-Esteem produces the *love of self*; the two conjoined, give rise to the Love of Acquisition for self-gratification; and if both organs be large, the individual will have a strong tendency to sordid selfishness, unless the moral and reflecting powers be particularly active and energetic. The passion for *uniques* also seems to arise from this combination.

Dr. Gall states this organ to be little developed in the skulls of the Caribs. In accordance with this, travellers say that they are little prone to theft; and, therefore, says Rochester, in his History of the Antilles, when they are robbed, they always insist that it must have been by a Christian. The Negroes are also little prone to steal, and the organ is moderately developed in them. Dr. Gall had an opportunity of observing among the Spanish troops, that both the Arragonese and Castilians have the anterior part of the temporal region a good deal flattened, denoting a small Acquisitiveness; and he was assured that they are the most faithful servants, and equally incapable of stealing as of lying. The Kalmucks, again, are the very opposite. *They* have been renowned for thieving and bad faith; and in accordance with this, Blumenbach, an opponent of Phrenology, in describing the Kalmuck skull, observes, that it projects in the region of Acquisitiveness, "*capita ad latera extantia.*" Dr. Gall possesses two Kalmuck skulls, and both correspond with Blumenbach's description. Dr. Spurzheim also tells us, "that a young Kalmuck, brought to Vienna by Count Stahrenberg, became melancholy, because his confessor, who instructed him in religion and morality, had forbidden him to steal. He got permission to steal, on condition that he should give back what he had stolen. The young man, profiting by this permission, stole his confessor's watch during high mass, but joyfully returned it after mass was over."

It is difficult to conceive a miser without a great endowment of this propensity, although an individual may be a thief with a moderate portion of it. Avarice arises from Acquisitiveness, raised to the height of a passion. Theft implies a want of regulating and directing influence from the moral faculties, as much as an excessive and intense desire to acquire property for the sake of possessing it. Strong sensual propensities, which cannot be gratified without money, may lead individuals to resort to theft as a means of supplying their wants, without the love of property itself being strong; but Conscientiousness must be weak, and Secretiveness powerful, before such an expedient can be resorted to.

The existence of this organ throws light on the tendency to steal, which some individuals, whose external circumstances place them far above temptation, manifest in a remarkable degree. In them, it seems to be in a state of diseased activity, and not to be controlled by the moral and reflecting faculties. Dr. Gall mentions several cases of diseased affections of this propensity. M. Kneisler, governor of the prison of Prague, spoke to him and Dr. Spurzheim about the wife of a rich merchant, who stole continually from her husband in the most adroit manner, and who was at last shut up in a house of correction, which she had scarcely left, when she stole again, and was again confined. She was condemned to a third and longer imprisonment, and again commenced her operations in the jail itself. With the utmost address, she made a hole in the stove, which heated the apartment in which the money was deposited, and committed repeated depredations, which were soon noticed. Every means were adopted to detect the offender, and bells were suspended at the doors and windows, but all in vain. At length a spring-gun was set, the wire of which was connected with the strong box. She was so dreadfully frightened by its explosion, that she had not time to escape through the stove. At Copenhagen, Drs. Gall and Spurzheim saw an incorrigible thief, who sometimes distributed the produce of his larcenies to the poor; and, in another place, a robber, who was in confinement for the seventh time, assured them with sorrow, that he felt himself unable to act otherwise. He begged to be detained in prison, and to be provided with the means of supporting himself.

At Munster, a man was condemned to imprisonment for eight years, on account of some robberies:—He was no sooner liberated than he committed fresh depredations, and was thereupon imprisoned for life. Sixteen years thereafter he revealed a conspiracy which had been formed among the criminals, and it was proposed to reward him by setting him free. The judge objected to this, that it would be dangerous to do so, as the man himself had previously assured him that his thievish propensity was so rooted in his constitution that he could not by any possibility resist it. About a year after, he escaped from prison, betook himself to his old practices, and was again arrested; shortly after which he hanged himself. "During ten years that I have known this man in the prison," said Werneking, from whom Drs. Gall and Spurzheim got these details, "he was remarkable for activity and devotion during divine service; but I learned after his death, that he had constantly been committing theft, even in the prison itself."

Dr. Gall mentions, that, among the young men confined in one of the prisons of Berlin (Stadtvogtey), one in particular attracted the attention of Dr. Spurzheim and himself. They strongly recommended never to set him at liberty, as they thought it impossible he could ever abstain from stealing. They explained their motives to the gentlemen who accompanied them, and, on examining the registers, the latter were much surprised to find that the man had from infancy manifested the strongest tendency to thieving. The organs of the highest sentiments were extremely deficient, while that of Acquisitiveness had acquired the highest degree of developement and energy. Its activity was also greatly aided by his immense endowment of Secretiveness. The man himself was little and deformed; his forehead "villanously low," and depressed backwards immediately above the eyebrows, but the lateral regions, or temples, were broad and prominent. In such a case no phrenologist would hesitate to give the same advice.

In the prison at Berne, Drs. Gall and Spurzheim saw a rickety and badly organized boy of twelve years of age, who could not refrain from stealing; and who, with his pockets filled with his own bread, purloined that of others. At Haina, the officers spoke to them about an incorrigible robber, named Fesselmayer, whom no punishment could amend. He stole in prison to such an extent, that a mark was put upon his arm, that all might be upon their guard against him. Before seeing him, Drs. Gall and Spurzheim stated what his developement ought to be, and their prediction was verified at the first glance. He had the appearance of being sixteen, although he was in reality twenty-six years of age. His head was round, and about the size of that of an infant of one year. He was, moreover, deaf and dumb.

Numerous examples of the diseased activity of this propensity occur in all lunatic asylums, and afford strong proof of the independent existence of the faculty and organ. Pinel tells us, that it is a matter of common observation, that men who, in their lucid intervals, are justly considered as models of probity, cannot refrain from stealing and cheating during the paroxysm; and Dr. Gall gives four cases of women, who, in their ordinary state, had no such tendency, but who, when pregnant, manifested it in a high degree.

Two citizens of Vienna attracted his notice, both of whom had led irreproachable lives previous to becoming insane. After that time both were distinguished for an extraordinary inclination to steal. They wandered over the hospital from morning to night, picking up whatever they could lay their hands upon,—straw, rags, clothes, wood, &c., which they carefully concealed in the apartment which they inhabited in common; and, although lodged in the same chamber, they stole from each other. In both the organ was very much developed.

M. Esquirol, physician to the Salpetrière of Paris, gave Dr. Gall an account of a Knight of Malta, who had quitted the army at the beginning of the French revolution, and who, from excessive indulgence and disappointed love, had become weak in intellect, violent in temper, and at last a thief. On his way to M. Esquirol's asylum, he contrived to steal spoons, covers, &c. from the inns at which he dined. He then went about accompanied by a servant, and not unfrequently refreshed himself in coffee-houses, and, instead of paying, put the cup, saucer, and spoon in his pocket, and walked away. In other respects he was sufficiently reasonable. This inclination to theft was cured, although his intellect remained weak.

Acrel mentions a young man who was trepanned, in consequence of a severe wound on the temple, in the region of the organ of Acquisitiveness. After his dismissal from the hospital, he manifested an irresistible propensity to steal, and after committing several larcenies, he was imprisoned, and would have been condemned, had not Acrel declared him insane.

"There are persons," says that accurate and philosophical observer and physician, Dr. Rush of Philadelphia,* "who are moral to the highest degree as to certain duties, but who, nevertheless, live under the influence of some one vice. In one instance a woman was exemplary in her obedience to every command of the moral law except one, — *she could not refrain from stealing.* What made this vice more remarkable was, *that she was in easy circumstances, and not addicted to extravagance in any thing.* Such was the propensity to this vice, that, when she could lay her hands upon nothing more valuable, she would often, at the table of a friend, fill her pockets secretly with bread. She both confessed and lamented her crime."

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* Rush's Medical Inquiries.

The *Journal de Paris* of 29th March, 1816, states, that "An ex-commissary of police, Beau-Conseil, has just been condemned to eight years' confinement and hard labor, and to the pillory, for having, when still in office, stolen some pieces of plate from an inn. The accused persisted to the last in an *odd* enough species of defence. He did not deny the crime, but he attributed it to mental alienation, occasioned by wounds which he had received at Marseilles in 1815." Dr. Gall observes, that if the previous conduct of Beau-Conseil was irreproachable, and if he did really receive a wound in the head, either his defender was inexcusable in not making the defence available, or the Court was blameable in not listening to it.

This propensity is found also in the lower animals. Lord Kames observes, that "the beavers perceive the timber they store up to be their property; and the bees seem to have the same perception with regard to their winter provision of honey." Dr. Gall also mentions a variety of the lower animals which manifest the sense of property. The same pair of storks, swallows, nightingales, and redbreasts return, in spring or in autumn, to the same country in which they had passed the season in the preceding year, and establish themselves, the storks on the same steeples, the swallows under the same roofs, and the nightingales in the same bushes. If another pair of birds attempt to seize the place already appropriated, war is immediately waged against them, and the intruders are forced to depart. Cows returning from the pasturage, occupy each its own stall in the byre, and defend it. The cat and dog, in hiding food, to be used when hunger returns; and the squirrel, hamster, and jackdaw, which collect provisions for the winter,—undoubtedly have the notion of property in the stores they accumulate. These animals, however, do not enact laws; and the sense of property is in them an instinct of nature. In the human race, says Dr. Gall, the process is the same; nature inspires the mind with the notion of property, and laws are made to protect it.

This organ is established.

9.—CONSTRUCTIVENESS.

THIS organ is situated at that part of the frontal bone immediately above the spheno-temporal suture. Its appearance and situation vary slightly, according to the developement of the neighboring parts. If the zygomatic process is very projecting, or if the middle lobes of the brain, or the forehead in general, or the organs of Language and Order in particular, are greatly developed, its size is less easily distinguished. The leading object ought to be to determine the actual size of each organ, and not its mere prominence; and, on this account, it is proper farther to notice, that, if the base of the brain is narrow, this organ holds a situation a little higher than usual, and there will then frequently be found a slight depression at the external angle of the eye, betwixt the zygomatic process and the organ in question, especially when the muscles are thin. In such cases, it has sometimes appeared as high up as Tune generally occurs. This slight variation from uniform situation occurs in the distribution of all the parts of the body; but the anatomist is not, on this account, embarrassed in his operations; for the aberration never exceeds certain limits, and he acquires, by experience, the tact of recognising the part by its general appearance.

It has been objected, that the elevation or depression of this part of the brain depends upon the force with which the temporal muscles, which lie over it, have acted in the individual; and it is said that carnivorous animals which masticate bones, and in consequence possess those muscles in a very powerful degree, have narrow heads, and little brain in the region of this organ.

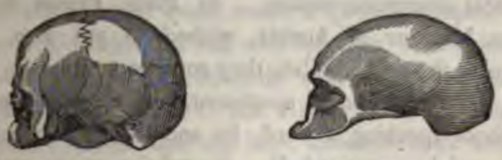
The answer to this is fourfold; 1*st*, Carnivorous animals do not build, and the organ in question is wanting in them. The organ being absent, their heads are narrow of course; but all this is in exact accordance with Phrenology. 2*dly*, In the beaver, which cuts timber with its teeth, and in which the temporal muscles act with great energy, the organ is large, and the head is broad; which also harmonizes with our doctrine, and contradicts that of the objectors. *3dly*, In the human race, the size of the head, at the region in question, which indicates the size of the organ, does not bear a proportion to the force with which mastication is performed; for some individuals, who live chiefly on slops, and chew little, have narrow heads, and weak constructive talents, while others, who eat hard viands, have broad heads, and manifest great mechanical skill; and, *4thly*, The actual size of the head in this quarter, from whatever cause it arises, bears a regular proportion to the actual endowment of constructive genius.

The temporal muscle differs in thickness in different persons, and the phrenologist ought to desire the individual observed, to move the lower jaw, and, while he does so, to feel the muscle, and allow for its size. The uncertainty in regard to the dimensions of the temporal muscle, renders it unsafe to predicate the size of the organs of Constructiveness and Acquisitiveness from *casts* of the *head*, unless information as to the thickness of the fleshy fibres is communicated. This organ, therefore, is best established, by examining living heads, or skulls, or casts of skulls.

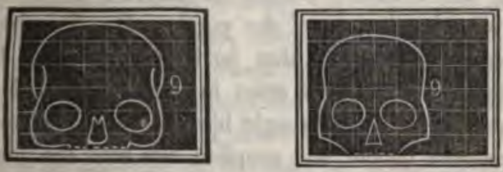
When Dr. Gall first turned his attention to the talent for construction, manifested by some individuals, he had not discovered the fact, that every primitive faculty is connected with a particular part of the brain as its organ; and, on this account, he directed his observations towards the whole head of great mechanicians. He was frequently struck with the circumstance, that the heads of such artists were as large in the temporal region as at the cheek bones. This, however, although occurring frequently, was not a certain and infallible characteristic; and hence he was led by degrees to believe, that the talent depended on a particular power. To discover a particular indication of it in the head, he sought acquaintance with men of distinguished mechanical genius, wherever he found them, studied the forms of their heads, and moulded them. He soon met some in whom the diameter from temple to temple was greater than that from the one zygomatic bone to the other; and at last found two celebrated mechanicians, in whom there appeared two swellings, round and distinct at the temples. These heads convinced him, that it is not the circumstance of equality in the zygomatic and temporal diameters, which indicates a genius for mechanical construction, but a round protuberance in the temporal region, situated in some individuals a little behind, in others a little behind and above the eye. This developement is always found in concomitance with great constructive talent, and when the zygomatic diameter is equal to it, then there is a parallelism of the face; but, as the zygomatic bone is not connected with the organ, and projects more or less in different individuals, this form of countenance is not invariably the concomitant of constructive talent, and ought not to be taken as the measure of the developement of the organ.

Having thus obtained some idea of the seat and external appearance of the organ, Dr. Gall assiduously multiplied observations. At Vienna, some gentlemen of distinction brought to him a person, concerning whose talents they solicited his opinion. He stated that he ought to have a great tendency towards mechanics. The gentlemen imagined that he was mistaken, but the subject of the experiment was greatly struck with this observation: He was the famous painter Unterbergen. To show that Dr. Gall had judged with perfect accuracy, he declared that he had always had a passion for the mechanical arts, and that he painted only for a livelihood. He carried the party to his house, where he showed them a multitude of machines and instruments, some of which he had invented, and others improved. Besides, Dr. Gall remarks that the talent for design so essential to a painter, is connected with the organ of Constructiveness, so that the art which he practised publicly was a manifestation of the faculty.

Dr. Scheel of Copenhagen had attended a course of Dr. Gall's lectures at Vienna, from which city he went to Rome. One day he entered abruptly, when Dr. Gall was surrounded by his pupils, and presenting to him the cast of a skull, asked his opinion of it. Dr. Gall instantly said, that he "had never seen the organ of Constructiveness so largely developed as in the head in question." Scheel continued his interrogatories. Dr. Gall then pointed out also a large developement of the organs of Amativeness and Imitation. "How do you find the organ of Coloring?"—"I had not previously adverted to it," said Gall, "for it is only moderately developed." Scheel replied, with much satisfaction, "that it was a cast of the skull of Raphael." Every reader, acquainted with the history of this celebrated genius, will perceive that Dr. Gall's indications were exceedingly characteristic. Casts of this skull may be seen in the Phrenological Society's collection, and also in De Ville's in London, and O'Neill's in Edinburgh, and the organs mentioned as large will be found very conspicuously indicated. That of Constructiveness in particular presents the round elevated appearance above described, as the surest indication of its presence in a high degree. An admirable Essay by Mr. Scott on the genius of Raphael, compared with the cerebral developement indicated by this skull, will be found in the Phrenological Journal, vol. ii. p. 327.



RAPHAEL. New Hollander.



Constructiveness large. Constructiveness small.

These figures represent a side view and front view of the skulls of Raphael and a New Hollander. In the front view, the coronal region of the New Hollander comes into the figure, and gives the forehead an appearance of size and perpendicularity greater than nature. But at the organ of Constructiveness, immediately behind and above the external angle of the eye, the front view represents the real dimensions in both skulls. In the New Hollander, the skull at Constructiveness falls greatly within the line of the cheek-bones; while in Raphael, the skull swells out at that organ.

Sir Walter Scott gives the following description of the New Hollanders. "The natives of New Holland are even at present in the very lowest scale of humanity, and ignorant of every art which can add comfort or decency to human life. These unfortunate savages use no clothes, construct no cabins or huts, and are ignorant even of the manner of chasing animals, or catching fish, unless such of the latter as are left by the tide, or which are found on the rocks."

Several of Dr. Gall's auditors spoke to him of a man who was gifted with an extraordinary talent for mechanics; he described to them beforehand what form of a head he ought to have, and they went to visit him: it was the ingenious mathematical instrument-maker Lindner, at Vienna; and his temples rose out in two little rounded irregular prominences. Dr. Gall had previously found the same form of head in the celebrated mechanician and astronomer David, Frere Augustin, and in the famous Voigtlænder, mathematical instrument-maker. At Paris, Prince Schwartzenberg, then Minister of Austria, wished to put Drs. Gall and Spurzheim to the test. When they rose from table, he conducted Dr. Gall into an adjoining apartment, and showed him a young man: without speaking a word, he and the Prince rejoined the company, and he requested Dr. Spurzheim to go and examine the young man's head. During his absence, Dr. Gall told the company what he thought of the youth. Dr. Spurzheim immediately returned, and said, that he believed him to be a great mechanician, or an eminent artist in some constructive branch. The Prince, in fact, had brought him to Paris on account of his great mechanical talents, and supplied him with the means of following out his studies.

Dr. Gall adds, that at Vienna, and in the whole course of his travels, he had found this organ developed in mechanicians, architects, designers, and sculptors, in proportion to their talent.

He mentions, that, at Mulhausen, the manufacturers do not receive into their employment any children, except those who, from an early age, have displayed a talent for the arts in drawing or clipping figures, because they know, from experience, that such subjects alone become expert and intelligent workmen.

Dr. Spurzheim mentions the case of a milliner of Vienna, who was remarkable for constructive talent in her art, and in whom the organ is large. A cast of her skull is in the Phrenological Society's collection, and it presents an appearance, in this particular part, resembling Raphael's.

When Dr. Spurzheim was in Edinburgh, in 1817, he visited the work-shop of Mr. James Milne, brass-founder, a gentleman who himself displays no small inventive genius in his trade, and in whom Constructivenes is largely developed, and examined the heads of his apprentices. The following is Mr. Milne's account of what took place upon the occasion:

"On the first boy presented to Dr. Spurzheim, on his entering the shop, he observed, that he would excel in any thing he was put to. In this he was perfectly correct, as he was one of the cleverest boys I ever had. On proceeding farther, Dr. Spurzheim remarked of another boy, that he would make a good workman. In this instance, also, his observation was well founded. An elder brother of his was working next him, who, he said, would also turn out a good workman, but not equal to the other. I mentioned, that, in point of fact, the former was the best, although both were good. In the course of farther observations, Dr. Spurzheim remarked of others, that they ought to be ordinary tradesmen, and they were so. At last he pointed out one, who, he said, ought to be of a different cast, and of whom I would never be able to make any thing as a workman, and this turned out to be too correct; for the boy served an apprenticeship of seven years, and, when done, he was not able to do one-third of the work performed by other individuals, to whose instruction no greater attention had been paid. So much was I struck with Dr. Spurzheim's observations, and so correct have I found the indications presented by the organization to be, that when workmen, or boys to serve as apprentices, apply to me, I at once give the preference to those possessing a large Constructiveness; and if the deficiency is very great, I would be disposed to decline receiving them, being convinced of their inability to succeed."

The organ of this faculty is very largely developed in Mr. Brunel, the celebrated inventor of machinery for making blocks for the *rigging* of ships, by means of steam; and who has, besides, shown a great talent for mechanics in numerous departments of art. It is large in Edwards, an eminent engraver; in Wilkie, Haydon, and J. F. Williams, celebrated painters; in Sir W. Herschel, whose great discoveries in astronomy arose from the excellence of his telescopes, made by his own hands; and in Mr. Samuel Joseph, an eminent sculptor. Masks of all these individuals are to be seen in the Phrenological Society's collection. In the late Sir Henry Raeburn, who was bred a goldsmith, but became a painter by the mere impulse of nature, without teaching, and without opportunities of study, I observed it large. It is large, also, in Mr. Scoular, a very promising young sculptor, who displayed this talent at a very early age. I have noticed it large in all the eminent operative surgeons of Edinburgh, in distinguished engravers, and also in the most celebrated cabinet-makers, who have displayed invention in their art. It and Form are large in children who are fond of clipping and drawing figures. It is large in tailors who excel in their art.

On the other hand, I possess a cast of the head of a very ingenious friend, distinguished for his talents as an author, who has often complained of so great a want of constructive ability, that he found it difficult even to learn to write; and, in his head, although large in other dimensions, there is a conspicuous deficiency in the region of Constructiveness. Among the negative instances fall to be ranked the casts and skulls of the New Hollanders, in the Phrenological Society's collection, which are all remarkably narrow in the situation of this organ; and their low condition in the constructive arts has been already mentioned. Contrasted with them, are the Italians and French. An accurate and intelligent phrenologist authorises me to state, that, during his travels in Italy, he observed a full developement of Constructiveness to be a general feature in the Italian head; and the same holds, but in a less degree, in the French. Both of these nations possess this organ in a higher degree than the English. Individuals, among the latter, are greatly gifted with it, and the nation in general possesses high intellectual organs, so that great discoveries in art are made in this country by particular persons, and speedily adopted and carried forward by those whom they benefit; but the natural taste for works of art and the enjoyment derived from them, are here less in degree, and less general, than in France, and especially than in Italy. The organ is well developed in many of the Esquimaux who show considerable constructive talent. It is large in most of the ancient Greeks. The busts also of eminent artists of former ages display a great developement of this organ; in particular, in the bust of Michael Angelo, in the church of Santa Croce at Florence, the breadth from temple to temple is enormous. The reflecting organs, situated in the forehead, and likewise Ideality, in him are very large; and these add understanding and taste to the instinctive talent for works of art, conferred by Constructiveness.

These are positive facts in regard to this organ. I shall notice a few circumstances, illustrative of the existence of a talent for construction, as a distinct power of the mind apart from the general faculties of the understanding, from which the reader may form an opinion of the extent to which the phrenological views agree or disagree with the common phenomena of human nature. This is the more necessary, as metaphysical philosophers in general do not admit a primitive faculty of Constructiveness, and hold mechanical arts to be the result entirely of reflection.

Among the lower animals, it is clear that the ability to construct is not in proportion to the endowment of understanding. The dog, horse, and elephant, which in sagacity approach very closely to the more imperfect specimens of the human race, never, in any circumstances, attempt a work of art. The bee, the beaver, the swallow, on the contrary, with far less general intellect, rival the productions of man. Turning our attention to man, we observe, that while, among children of the same family, or the same school, some are fond of a variety of amusements unconnected with art, others constantly devote themselves, at their leisure hours, to designing with chalk various objects on the boards of books, walls, and paper, or occupy themselves with fashioning in wax or clay, or clipping in paper, the figures of animals, trees, or men. Children of a very tender age have sometimes made models of a ship of war, which the greatest philosopher would in vain strive to imitate. The young Vaucanson had only seen a clock through the window of its case, when he constructed one in wood, with no other utensils than a bad knife. A gentleman with whom I was intimately acquainted, invented and constructed, at six years of age, a mill for making pot-barley, and actually set it in operation by a small jet from the main stream of the Water of Leith. Lebrun drew designs with chalk at three years of age, and at twelve he made a portrait of his grandfather. Sir Christopher Wren, at thirteen, constructed an ingenious machine for representing the course of the planets. Michael Angelo, at sixteen, executed works which were compared with those of antiquity.*

The greater number of eminent artists have received no education capable of accounting for their talents; but, on the contrary, have frequently been compelled to struggle against the greatest obstacles, and to endure the most distressing privations, in following out their natural inclinations. Other individuals, again, educated for the arts, on whom every advantage has been lavished, when destitute of genius, have never surpassed mediocrity. Frequently, too, men, whom external circumstances have prevented from devoting themselves to occupations to which they were naturally inclined, have occupied themselves with mechanics as a pastime and amusement. An eminent advocate at the Scottish bar, in whom Constructiveness is largely developed, informed me, that occasionally, in the very act of composing a written pleading on the most abstruse questions of law, vivid conceptions of particular pieces of mechanism, or of new applications of some mechanical principle, dart into his mind, and keep their place so as to interrupt the current of his voluntary thoughts, until he has embodied them in a diagram or description, after which he is able to dismiss them and proceed with his professional duties. Leopold I., Peter the Great, and Louis XVI. constructed locks. The organs of Constructiveness were largely developed in the late Lord President Blair of the Court of Session, as appears from a cast of his head, his statue, and also from his portraits: and it is said, that he had a private workshop at Avondale, in Linlithgowshire, in which he spent many hours during the vacations of the Court, constructing pieces of mechanism with his own hands. The predilection of such individuals for the practice of mechanical arts cannot reasonably be ascribed to want, or to their great intellectual faculties: for innumerable objects, more directly fitted to gratify or relieve the understanding, must have presented themselves to their notice, had they not been led by a special liking to the course they followed, and felt themselves inspired by a particular talent for such avocations. Not only so, but examples of an opposite description are met with; namely, of men of great depth and comprehensiveness of intellect, who are wholly destitute of manual dexterity. Lucien and Socrates renounced sculpture, because they felt that they possessed no genius for it. M. Schurer, formerly Professor of Natural Philosophy at Strasburg, broke every article he touched. There are persons who can never learn to make a pen or sharp a razor; and Dr. Gall mentions, that two of his friends, the one an excellent teacher, the other "grand ministre," were passionately fond of gardening, but he could never teach them to engraft a tree. As a contrast to these, men of considerable mechanical dexterity are frequently found to be remarkably destitute of talent for every other pursuit, and to possess very limited understandings.

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* Gall sur les Fonctions du Cerveau, tome v.

Cases of disease also tend to prove that Constructiveness depends on a special faculty, and is not the result merely of general intellect. Dr. Rush mentions two cases in which a talent for design had unfolded itself during a fit of insanity; and he adds, that there is no insane hospital in which examples are not found of individuals, who, although, previously to their loss of understanding, they never showed the least trace of mechanical talent, have subsequently constructed the most curious machines, and even ships completely equipped. These cases are at utter variance with the notion that the intellectual faculties produce this talent; for in them they were deranged, while they accord with the phrenological doctrine of this power depending on a separate faculty and organ, which may remain sound when the others are diseased.

Foderé, in his Traité du Goitre et de la Cretinisme, p. 133, remarks, "That, by an inexplicable singularity, some of these individuals (Cretins,) endowed with so weak minds, are born with a particular talent for copying paintings, for rhyming, or for music. I have known several who taught themselves to play passably on the organ and harpsichord; others who understood, without ever having had a master, the repairing of watches, and the construction of some pieces of mechanism." He adds, that these powers could not be attributed to the intellect, for these individuals not only could not read books, which treated of the principles of mechanics, "mais ils etaient deroutés lorsqu'on en parlait, *et ne se perfectionnaient jamais.*"

In the lower animals, nature has implanted a propensity to construct, but in them it is always specific; while in man a similar tendency is found, but general in its application. For example, nature inspires the beaver not only with a desire to build, but also with an instinctive and unerring impulse, independent of acquired knowledge and experience, to construct a dwelling of a particular form; and the power of the animal to build is confined entirely within the limited sphere of its intuitive inspiration. Man, on the other hand, has received also from nature a propensity to construct, but not a limited and intuitive instinct to build a house or a ship, or to weave a coat or a vest, or, in short, to fashion any *particular* object. The beaver possesses no general reflecting powers to direct its propensity, and hence it was necessary to inspire it not only with a desire to build, but with a plan of architecture. To man, on the contrary, reflection is given; and the faculties of the understanding enable him to invent plans, and to employ his impulse to construct, in a great variety of ways.

Constructiveness, then, confers only the power of constructing in general, and the results which it is capable of producing are influenced by other faculties. For example, intellect alone, with extreme deficiency of Constructiveness, will never enable an individual to become an expert mechanician; but, if the developement of Constructiveness be equal in two individuals, and the intellectual organs be large in the one and small in the other, the former will accomplish much higher designs than the latter: and the reason is obvious. The primitive talent for construction is the same in both; but the one, by means of reflection, is endowed with the perception of the relation of means to an end, and hence is able to select, from the wide circle of nature and of art, every object and appliance that may extend and elevate his conceptions and aid their execution; while the latter is limited to a mere mechanical talent, never stretching beyond imitation of objects previously existing.

Dr. Gall mentions, that it is difficult to discover the position of this organ in some of the lower animals, on account of the different disposition of the convolutions, their small size, and the total absence of several of those which are found in man. The organ of Music in the lower creatures is situated towards the middle of the arch of the eyebrow, and that of Constructiveness lies a little behind it. In the hamster, marmot, and castor, of which he gives plates, it is easily recognised; and at the part in question, the skulls of these animals bear a close resemblance to each other. In the "rongeurs," the organ will be found immediately above and before the base of the zygomatic arch, and the greater the talent for construction, the more this region of their head is projecting. The rabbit burrows under ground, and the hare lies upon the surface, and yet their external members are the same. On comparing their skulls, this region will be found more developed in the rabbit than in the hare. The same difference is perceptible between the crania of birds which build nests, and of those which do not build. Indeed the best way to become acquainted with the appearance of the organ in the lower animals, is to compare the heads of animals of the same species which build, with those which do not manifest this instinct; the hare, for example, with the rabbit, or birds which make nests with those which do not.

The organ is established.

GENUS II.—SENTIMENTS.

THIS genus of faculties corresponds to the "emotions" of the metaphysicians. The feelings which they produce, are not the *immediate* consequences of the presence of external objects, but are excited, *only indirectly*, through the medium of intellectual perceptions or sensations. They differ from intellectual perceptions, in being accompanied with a peculiar vividness, which every one understands, but which it is impossible to express by any verbal definition.* They may exist, also, with great intensity, by the internal activity of the organs. Dr. Spurzheim has named these faculties Sentiments, because they produce a propensity to act, joined with an emotion or feeling of a certain kind. Several of them are common to man and the lower animals; others are peculiar to man. The former shall be first treated of, and they are styled the Inferior or Lower Sentiments.

1. *Sentiments common to Man and the lower Animals.*

10.—SELF-ESTEEM.

THIS organ is situated at the vertex or top of the head, a little above the posterior or sagittal angle of the parietal bones. When large, the head rises far upward and backward from the ear, in the direction of it, see figures, p. 218.

Dr. Gall gives the following account of the discovery of the organ. A beggar attracted his attention by his extraordinary manners. He reflected on the causes which, independently of an absolutely vicious conformation or of misfortunes, could reduce a man to mendicity; and believed that he had found one of the chief of them in levity and want of foresight. The form of the head of the beggar in question confirmed him in this opinion. He was young, and of an agreeable exterior, and the organ of Cautiousness was very little developed. Dr. Gall moulded his head, and, on examining it with attention, remarked, in the upper and back part of the middle line, a prominence extending from above downwards, which could arise only from developement of the cerebral parts there situated. He had not previously observed this prominence in other heads; and, on this account, he was very anxious to discover what it indicated. His head, moreover, was small, and announced neither strong feelings nor much intellect. After many questions addressed to the beggar, with a view to discover the remarkable traits of his character, he requested him to relate his history. The beggar said, that he was the son of a rich merchant, from whom he had inherited a considerable fortune; that he had always been so proud as not to be able to condescend to labor, either for the preservation of his paternal fortune, or to acquire a new one; and that this unhappy pride was the only cause of his misery. This, says Dr. Gall, "called to my recollection those persons who forbear to cut their nails, with the view of supporting the idea that they never require to work." He made several farther observations to the beggar, and showed him that he doubted his veracity; but he always reverted to his pride, and seriously stated, that even now he could not resolve to follow any kind of labor. Although it was difficult to conceive how pride should cause a man to prefer begging to working, yet Dr. Gall was led, by this person's reiterated assurances, to reflect upon the sentiment, and to observe the organ, and he found, at length, incontrovertible proofs of their connexion.

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* Lectures by Dr. Thomas Brown. Lecture 52.

He mentions a variety of cases in illustration, of which I select only the following:

A young man, endowed with faculties above mediocrity, had manifested, from his infancy, insupportable pride. He constantly maintained that he was of too good a family to work or apply himself to any thing. Nothing could free him from this absurdity; he was even put, for eighteen months, into a house of correction at Hainar. A physician of Vienna, an otherwise amiable man, carried the feeling of pride to such a point, that every time when called to a consultation, even with practitioners older than himself, or with public professors, he regularly took the precedence, both in entering and coming out of the apartment. When any document was to be subscribed, he insisted on adhibiting his signature first.

He had connected himself with the director of the Great Hospital, but solely, as he himself told afterwards, for the purpose of supplanting him. At Heidelberg, Dr. G. saw a girl of eighteen, of a remarkable character. Every word or gesture in the least familiar revolted her. She called on God on every occasion, as if he took a special interest in her affairs. When she spoke, assurance and presumption were painted in her features; she carried her head high and a little backwards, and all the movements of her head expressed pride. She was not capable of submission; when in a passion, she was violent and disposed to proceed to all extremities. Although only the daughter of a quill-merchant, she spoke her native language with extraordinary purity, and communicated only with persons of a rank superior to her own. In all these individuals, the organ of Self-Esteem was very largely developed. Dr. Gall mentions, that he had examined also the heads of a number of Chiefs of Brigands, remarkable for this quality of mind, and that he had found the organ largely developed in them all. The figures represent the organ large and small.

Francois Cordonnier.

Self-Esteem moderate.

Mr———

Self-Esteem large.

The faculty inspires with the sentiment of Self-Esteem or Self-love, and a due endowment of it, like that of all other faculties, produces only excellent effects. It imparts that degree of satisfaction with self, which leaves the mind open to the enjoyment of the bounties of Providence and the amenities of life; and inspires it with that degree of confidence, which enables it to apply its powers to the best advantage in every situation in which it is placed. It aids also in giving dignity in the eyes of others; and we shall find in society, that that individual is uniformly treated with the most lasting and sincere respect, who esteems himself so highly as to contemn every action that is mean or unworthy of an exalted mind. By communicating this feeling of self-respect, it frequently and effectually aids the moral sentiments in resisting temptations to vice. Several individuals in whom the organ is large, have stated to me that they have been restrained from forming improper connexions, by the overwhelming sense of self-degradation excited in their minds by the mere prospect of such a circumstance; and that they believed their better principles might have yielded to temptation, had it not been for the support afforded to them by the instinctive impulses of Self-Esteem. An individual is predisposed to humility, when the organ is too small. In such a case, want of confidence, and of a due sense of his own importance, is felt. He has no reliance upon himself; if the public or his superiors frown, he is unable to pursue even a virtuous course, through diffidence of his own judgment. Inferior talents, combined with a strong endowment of Self-Esteem, are often crowned with far higher success, than more splendid abilities joined with this sentiment in a feebler degree. Dr. Adam Smith, in his Theory of Moral Sentiments, remarks, that it is better, upon the whole, for an individual to have too much, than too little, of this feeling; because, if we pretend to more than we are entitled to, the world will give us credit for at least what we possess; whereas, if we pretend to less, we shall be taken at our word, and mankind will rarely have the justice to raise us to the true level.

It is only when possessed in an inordinate degree, and indulged without restraint from higher faculties, that it produces abuses. In children, it then shows itself in pettishness, and a wilful temper. Those children in whom the organ is small, are generally obedient, and easily directed according to the will of others. In later life, a great developement of the organ, with deficiency of other powers, produces arrogance, superciliousness of deportment, and selfishness. The first thought of persons so endowed is, how the thing proposed will affect themselves; they see the world and all its interests only through the medium of self. I have seen individuals mistake the impulses of it for the inspiration of genius, and utter common-place observations with a solemnity and emphasis suitable only to concentrated wisdom. The musician, under its predominating influence, is sometimes led to embellish a tune with decorations of his own inventing, till its character is changed, and the melody destroyed. In short, when the organ is inordinately large, it communicates to the individual a high sentiment of his own importance, and leads him to believe, that whatever he does or says is admirable, just because it proceeds from him. It inspires him with magnificent notions of his own respectability, and prompts him, on comparing himself with others, to depreciate them, in order to raise himself in the scale of comparative excellence. It is a chief element in the disposition to censoriousness and envy. Persons who are fond of discussing the characters of others, and feel the tendency to vituperate rather than to praise them, will be found to have this organ large. It is the comparison with self, and a secret satisfaction at fancied superiority, that gives pleasure in this practice. Envy is the result of Self-Esteem and Love of Approbation, offended by the excellences of others, and calling up Destructiveness to hate them. To make way for this effect, however, Benevolence and Conscientiousness must be deficient.

When Self-Esteem predominates, it gives an intense feeling of egotism ; and the individual in his discourse, is then prone to use the emphatic *I:* " *I* did this, *I* said the other thing." The faculty then gives a solemn gravity to the manners, an authoritative commanding tone to the voice, and a kind of oracular turn to the mind, which frequently shows itself in the most ludicrous manner. Cobbett's whole life and writings indicate an excessively active Self-Esteem, aided by Combativeness ; and he has maintained, at different times, every variety of opinion that could enter the human imagination, and upon every point of his changeful creed he has dogmatized with more than oracular infallibility. Madame de Stael describes most graphically another illustrious example of the effects of an inordinate Self-Esteem, even on a powerful mind. Speaking of one of the heroes of the Revolution, she says that he possessed considerable talents, " mais au lieu de travailler *il s'etonnoit de lui même.*" Some individuals manifest a solemn good-natured patronizing tendency towards others, indicated in discourse by epithets such as "my good sir," "my good fellow," and the like. This arises from Self-Esteem and Benevolence both large.

Another effect of a predominating Self-Esteem, is to render the individual extremely well satisfied with whatever belongs to himself. An eminent phrenologist sailed as a passenger from the Clyde to a foreign port, in a vessel commanded by a person in whose head this organ was very largely developed, and saw many striking manifestations of it on the voyage. The captain said, that he thought nothing of the vessel when he first saw her, but after commanding her for awhile, he thought her the first ship belonging to the Clyde. This was evidently because she had become his vessel. On his voyage, he assumed the most dictatorial airs; told the passengers he would send them before the mast, that he was sole commander here, and that all must obey; spoke habitually of himself, and seemed to have an insatiable appetite for power. He possessed little reflection, and was deficient in Conscientiousness.

Under the influence of this faculty, some authors appear, in their compositions, to fall instinctively and unconsciously into excessive use of pronouns of the first person. The following example is taken from the works of an esteemed philosopher: "When *I* first ventured to appear before the public as an author, *I* resolved that nothing should ever induce *me* to enter into any controversy in defence of *my* conclusions, but to leave them to stand or to fall by their own evidence. From the plan of inductive investigation which *I* was conscious of having steadily followed, as far as *I* was able, *I* knew that whatever mistakes might be detected in the execution of *my* design, no such fatal consequences were to be dreaded to *my* general undertaking, as might have been justly apprehended, had *I* presented to the world a connected system, founded on gratuitous hypothesis, or on arbitrary definitions. The detections, on the contrary, of *my* occasional errors, would, *I* flattered *myself*, from the invariable consistency and harmony of truth, throw new lights on those inquiries which *I* had conducted with greater success; as the correction of a trifling mistatement in an authentic history is often found, by completing an imperfect link, or reconciling a seeming contradiction, to dispel the doubts which hung over the more faithful and accurate details of the narrative.

"In this hope *I* was fortified by the following sentence of Lord Bacon, which *I* thought *I* might apply to *myself*, without incurring the charge of presumption: 'Nos autem, si qua in re vel male credidimus, vel obdormivimus et minus attendimus vel defecimus in via et inquisitionem abrupimus, nihilo minus IIS MODIS RES NUDAS ET APERTAS EXHIBEMUS, ut errores nostri notari et separari possint; atque etiam, ut facilis et expedita sit laborum nostrorum continuatio.'

"As this indifference, however, about the fate of *my* particular doctrines, arose from a deep rooted conviction, both of the *importance* of *my* subject, and of the *soundness* of *my* plan, it was impossible for *me* to be insensible to such criticisms as were directed against either of these two fundamental assumptions. Some criticisms of this description *I* had, from the first, anticipated; and *I* would not have failed to obviate them in the introduction to *my* former work, if *I* had not been afraid to expose *myself* to the imputation of prolixity, by conjuring up objections for the purpose of refuting them," &c.

Another amusing instance of a similar style of writing will be found in an account of himself by "Flechier Eveque de Nismes," prefixed to an edition of his "Oraisons Funebres," printed at Paris in 1802. I infer this to arise from a great endowment of Self-Esteem. A portrait of the author last named is prefixed to his work, in which a strong expression of Self-Esteem appears depicted on his countenance. The portraits of Gibbon also indicate this expression in a remarkable degree.

One form in which abuses of this faculty appear in ordinary society, is contempt for our fellow men. Mechanics look down with contempt on male domestic servants; wholesale merchants regard retail dealers as an inferior caste; an uneducated artisan speaks with contempt of doctors; lawyers despise traders; and the nobility speak of professional people, and the industrious classes in general as persons of an inferior grade.—This is the effect of

Self-Esteem in its unenlightened condition. Real superiority is constituted by a fine endowment of the bodily and mental organs, highly cultivated; but persons thus gifted are the least prone to regard any of God's creatures with disdain. By pointing out these tendencies of the faculty, those in whom the organ is large will be put upon their guard to avoid such ludicrous modes of its manifestation.

The feeling of individual personality has been supposed by some phrenologists to arise from this faculty; and they have been led to this conjecture, by the undoubted fact, that the prominence which the first person assumes in the mind, bears a proportion to the size of the organ of Self-Esteem.

Self-Esteem is an ingredient in the love of *uniques*. The high value attached by some persons to objects which no other person can possess, seems resolvable to a great extent into gratification of this feeling. In possessing the article they enjoy a superiority over the whole world, and the consciousness of this confers a high value on it in their estimation.

This faculty is one element in the love of dominion and power. It is large in the busts of Augustus Cæsar and of Bonaparte; and I have observed that those individuals who, in private life, aspire most eagerly to office, and who are most delighted with the possession of a little brief authority, generally have a large Self-Esteem. From the same cause, viz. that this faculty produces the love of power, it happens that those who are most violent in their opposition to persons in authority, generally possess the same organ also fully developed. In short, when two individuals equally thirst for dominion, and when the one can rule only by the other obeying, it is easy to perceive that the subject will, in such a case, manifest little satisfaction under the yoke, and that his very love of authority will make him the most determined opponent of it in others.

Nations differ with regard to the degree in which they possess this organ. It is large in the Hindoos, and the English have more of it than the French; hence the manner of a genuine Frenchman appears to an Englishman to be fawning and undignified; while the manner of an Englishman appears to the French cold, haughty, and supercilious. The great Self-Esteem of the English, and their consequent instinctive aversion to all stretches of power, are probably causes of their political liberty. Dr. Adam Ferguson has recognised the operation of this sentiment in maintaining their freedom. Alluding to the *habeas corpus* act, he remarks, "that it requires a fabric no less than the whole political constitution of Great Britain, *a spirit no less than the refractory and turbulent zeal of this fortunate people*, to secure its effects."*

Self-Esteem, when eminently powerful, and not combined with the higher sentiments equally strong, causes the individual to carry his head high and reclining backwards. It gives a cold and repulsive expression to the manners, and it is in an especial degree offensive to other individuals largely endowed with the same faculty.

Dr. Reid and Mr. Stewart treat of this sentiment under the designation of the Desire of Power. Dr. Thomas Brown calls it "pride," and defines it as "That feeling of vivid pleasure which attends the consciousness of our excellence."† Dr. Brown views the desire of power as a separate principle; but the sentiment is the same as the one which we name Self-Esteem; and the latter appears to me to be the primitive emotion, which is felt and manifested as the fundamental function of the organ; whereas, the desire of power is a direction of the faculty in a particular way, resulting from a combination with Love of Approbation, and depending on external situation. It is quite conceivable, that a private individual, removed from all means of acquiring authority in public, may be very proud, and manifest little of the appetite for dominion, except over those of his household; but I do not conceive, that any one could be found fired with an insatiable ambition for situations of command, in whom Self-Esteem is defective, or even moderate in size; so that there appears no adequate ground for assuming pride as one primitive sentiment, and the love of power as another and distinct original desire.

In treating of Acquisitiveness, I mentioned, that the practical effects of that faculty were much modified by the endowment of

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* History of Civil Society, part iii. sect. 6.

† Vol. iii. p. 300.

Self-Esteem, with which it happened to be combined,—selfishness being greatly increased by the combination of both in a full degree of developement. Mr. Stewart approaches close to the same doctrine, when he observes, that "the idea of power is, partly at least, the foundation of our attachment to property."* A phrenologist, on analyzing the combination, would infer, that Acquisitiveness desires to acquire wealth, and Self-Esteem to hold and apply it to selfish gratification.

This organ appears to be possessed by the lower animals. The turkey-cock, peacock, horse, &c. manifest feelings resembling pride or Self-Esteem.

Dr. Gall, however, entertained views on this subject peculiar to himself. He mentions, that, after having studied the sentiment of pride as a primitive mental quality, and its organ in the human race, he wished to ascertain whether his observations would be confirmed by the lower animals. He, therefore, examined the heads of such of them as we are accustomed to call proud,—the race-horse, the cock and peacock. He did not find in any of these a remarkable developement of the cerebral parts, corresponding to the organ of Self-Esteem in man; but he found a considerable developement of these parts in animals in which he would never have thought of looking for it, that is to say, in those which voluntarily remain in the higher regions of the air, living on mountains, and other elevated situations; for example, in the roebuck, the chamois, the wild goat, and certain species of eagles and falcons; and what struck him most was, that the parts in question were the more developed, in proportion to the greater height of the dwelling-places of the animals. Dr. Gall himself was astonished at this observation. That a predilection for physical heights, should, in animals, depend on the same organ as that to which the sentiment of Self-Esteem is referrible in man, appeared to him, at first, altogether improbable and inadmissible; yet, says he, "I have laid down the rule to communicate the progress of my observations, as well as the manner in which they have given rise to my opinions. Opinions which have not facts for their basis, if not erroneous, are at least very likely to be so; and a natural historian ought to be less ashamed of committing an error in his interpretations of facts, than of founding his opinions on reasoning alone." He accordingly enters into some interesting observations on the various dwelling-places of animals; directing the attention of his readers both to those which inhabit elevated regions, and to others which prefer the lowest situations; and states, that, in all animals which have their abodes in high places, there is a lengthened eminence in the middle line of the head, immediately above the organ of Philoprogenitiveness, and which entirely resembles the organ of Self-Esteem in man.*

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* Outlines, p. 92.

Dr. Spurzheim holds, that this prominence in the brains of the lower animals corresponds to the organ No. III. in man, (named by him Inhabitiveness, and, in this work, Concentrativeness;) and, while he admits the accuracy of the facts stated by Dr. Gall, he differs from his conclusions, and says, that it is not the same organ which produces in man the sentiment of Self-Esteem, and, in the lower creatures, the love of physical heights; but that there are distinct organs both in man and the lower animals for these separate mental qualities. It appears to me, that Dr. Spurzheim is correct in maintaining, that the organ No. III. is distinct from that of Self-Esteem, both in the lower animals and in man; and the real extent of the difference betwixt him and Dr. Gall is this,—Dr. Spurzheim admits two organs lying betwixt Firmness and Philoprogenitiveness, but Dr. Gall only one: Dr. Gall considers the whole of the intermediate cerebral parts as the organ in man of Self-Esteem, and, in animals, of the love of physical height; while Dr. Spurzheim regards the upper portion of these parts as the organ of Self-Esteem, and the lower portion as the organ of Inhabitiveness in both cases. I am satisfied that the organs are distinct in the human species, and that the upper serves to manifest Self-Esteem. Farther observations must determine the functions of the lower organ, or No. III.

When the organ becomes excited by disease, the individual imagines himself to be a king, an emperor, a transcendent genius, or even the Supreme Being. Dr. Gall mentions the case of a Monsieur B., in whom the organ was naturally very large, and who was accidentally wounded by a nail in this part of the brain. While laboring under the influence of the wound, he felt himself as it were elevated above the clouds, and carried through the air, retaining, at the same time, and also manifesting, during his convalescence, the same proud and haughty manners which had distinguished him during health.

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* Sur les Fonctions du Cerveau, tome iv. p. 279.

"The organ was equally conspicuous in an insane patient at Baden, near Rastadt. This man's insanity consisted in believing himself a Major. He had a small head, and the only organ which was developed in a high degree was that of Self-Esteem; the whole other convolutions of the brain being very small. In the charity work-house of Fribourg, we saw an insane man who was extremely proud. He declared, in a vehement and pathetic tone, 'qu'il est la souche' by the aid of which God created and preserves the world; that he has been crowned by Jesus Christ; that he is the young man whom the Queen of Heaven has selected for her spouse. His attitude is that of an arrogant despot. Deeply inspired with sentiments of his high importance, he crosses his arms, and to give an idea of the astonishing power which he possesses, he strikes his breast and sides with violence. In general, he stands with one foot placed before the other, the body erect, and a little inclined backwards. When I requested him," says Dr. Gall, "to allow me to touch his head, he replied with astonishing arrogance, 'Ich habe keinen *Kopf*, sondern ein *Haupt*,' I have no head such as common men possess, but a *Haupt* or head peculiar to Kings and Gods. He turned away, holding us to be totally unworthy of approaching him. We observed, however, very distinctly, that he had the organ of Self-Esteem very largely developed."

Pinel, Foderé, and other authors on Insanity, mention cases equally characteristic of disease of this organ. "A patient," says Pinel, "confined in a private asylum in Paris, during his fits, believed himself to be the Prophet Mahomet, assumed an attitude of command, and the tone of the Most High; 'ses traits étaient

There is a great difference in regard to the degree of endowment of this faculty, in different individuals. Some watch, with the most animated anxiety, every motion, and every look, and intuitively feel when we approve or disapprove. When we approve, the eye sparkles, the countenance opens, and the individual approaches us with a pleasing courtesy, expressive at once of the pleasure he has received from our approbation, and of his desire to retain it. He, on the other hand, in whom the faculty is naturally feeble, shows, by the undisturbed fixture of his countenance, that our censure and applause are alike unimportant to him. When we censure, he stares us in the face, with indifference, or gapes in stupid wonder.

A due endowment of this faculty is indispensable to an amiable character. It gives the desire to be agreeable to others,—it is the drill-sergeant of society, and admonishes us when we deviate too widely from the line of march of our fellows,—it induces us to suppress numberless little manifestations of selfishness, and to restrain many peculiarities of temper and disposition, from the dread of giving offence, and thereby incurring disapprobation;—it is the butt upon which wit strikes, when, by means of ridicule, it drives us from our follies. To be laughed at is worse than death to a person in whom this sentiment is strong.

The direction in which gratification of it will be sought, will depend on the faculties with which it is combined in the individual. If the moral sentiments and intellect be vigorous, it will prompt to moral emulation and the desire of honorable fame. It animates the poet, the painter, the orator, the warrior, and the statesman. In some individuals it attains the height of a passion, and then glory is pursued at the hazard of life and of every enjoyment which it affords, and fame is sought for even in the cannon's mouth. "Themistoclem illum," says Cicero, "summum Athenis virum, dixisse aiunt, cum ex eo quæreretur, quod acroama, aut cujus vocem libentissime audiret? Ejus, à quo sua virtus optimè prædicaretur." Cicero himself seems to have possessed this sentiment in a very high degree: "Trahimur omnes laudis studio," says he, "et optimus quisque maxime gloriâ ducitur. Ipsi illi philosophi, etiam in illis libellis quos de contemnenda gloria scribunt, nomen suum inscribunt; in eo ipso, in quo prædicationem nobilitatemque despiciunt, prædicari de se ac nominari volunt."* If the lower propensities predominate, the individual may be pleased, by the reputation of being the best fighter, or the greatest drinker of his circle.

The feeling which is most commonly experienced, when this organ is large, even when favorably combined with other organs, is anxiety about what the world will think of us. A youth in whom it is powerful cannot do this thing, because every body will look at him; or cannot do the other, because the people would wonder. In older persons, it produces a fidgety anxiety about the opinions of the public, or of the circle of acquaintances who compose the public to them. They imagine themselves continually before the public eye, and that the world is occupied with little else than weighing their motives, speculating on their conduct, and adjusting the precise point in the scale of importance and respectability at which they ought to be placed. A great portion of this feeling, however, is the mere inspiration of a very active and powerful Love of Approbation in their own heads. The public are too much engrossed with themselves and their own affairs, to bestow so minute and permanent a degree of attention upon an individual. This anxiety about public opinion, when excessive, is subversive of happiness and independence. It renders the mere *dicta* of the society in which the individual moves his code of morality, religion, taste, and philosophy; and incapacitates him from upholding truth or virtue, if disowned by those whom he imagines influential or genteel. The want of a philosophy of mind, allows wide scope to the aberrations of this faculty, for in the absence of well defined principles of taste and conduct, individuals of high pretension dictate with greater facility fashions however absurd, which the herd of mankind follow.

The distinguishing characteristic betwixt the disposition to oblige, conferred by this sentiment, and the feeling of genuine kindness, which springs from Benevolence, is, that Love of Approbation prompts us to do most for those who least require our aid; Whereas Benevolence takes exactly the opposite direction. Men, in general, care little for the approbation of their inferiors, their own household, or those of whom they are altogether independent; and he whose exertions are inspired chiefly by this faculty, will do extremely little to benefit them. To serve or please the great or the splendid, on the other hand, or strangers whose voice may raise or depress his fame, he will make the most animated exertions. Persons, accordingly, in whom Love of Approbation is very strong, and Benevolence and Conscientiousness deficient, are frequently the most agreeable acquaintances to those who are altogether independent of them, "they smile on all who care not for their frowns," while they neglect or torment their inferiors and equals.

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* Oratio pro Archia.

The abuses of this faculty may be traced in all ages, and in every variety of form. Combined with Secretiveness large, it prompts its possessor to pay to other individuals those unmeaning compliments which pass current in society, and which most persons receive well, when addressed to themselves, but treat with ridicule when bestowed lavishly on others. It prompts to the equivocation of "not at home," when the person is otherwise engaged. The faculty of Conscientiousness would desire that the plain fact should be stated; but Love of Approbation produces an instinctive feeling that the Self-Esteem of the person calling will be offended at the idea that any engagement could render it inconvenient to see *him*. To save this pang, Love of Approbation and Secretiveness prompt to the invention of the little *equivoque*. This deceit is seen through by all, and nevertheless the use of it is more pleasing to persons in whom Self-Esteem and Love of Approbation are very large, than the announcement of the simple truth. Some individuals state candidly that they are "engaged;" and I have asked persons in whom the above organs are large, whether they felt more annoyed by this reply, than by "not at home," even when they suspected that the latter meant really the former. They acknowledged, that, for the first time, they did feel slightly irritated by the idea that their friend was in the house and would not see them; but that a moment's reflection satisfied them, that forcible reasons must exist for the refusal, and that the very announcement of the truth was an appeal to their higher feelings, and a proof of unhesitating confidence in their attachment and good sense; and ever after they were not offended by the reply "engaged." It is the same combination of Love of Approbation with Secretiveness, which prompts some individuals to the practice of calling on those whom they are pleased to style their friends, when they are sure they are not at home, for the purpose of leaving their card. This proceeding is an offer of flattery to the Self-Esteem and Love of Approbation of the persons called upon; but as it argues an absence of real affection and esteem for them, it is, in truth, an insult; and, besides, it necessarily implies so great a deficiency of Conscientiousness in the individuals who practise it, that they are not to be relied on in circumstances in which real friendship will be put to the test.

When the developement of Love of Approbation is excessive, while the regulating organs are deficient, it is the cause of great unhappiness. It renders the little girl at school miserable, if her dress and the style of living of her parents be not equal to those of the parents of her associates. It overwhelms the artist, author, or public speaker, with misery, if a rival is praised in the journals in higher terms than himself. A lady is tormented at perceiving, in the possession of her acquaintance, finer dresses or equipages than her own. It excites the individual to talk of himself, his affairs, and connexions, so as to communicate to the auditor vast ideas of his greatness or goodness: in short, vanity is one form of its abuse. "Sir," says Dr. Johnson, "Goldsmith is so much afraid of being unnoticed, that he often talks, merely lest you should forget that he is in the company." When not combined with Conscientiousness and Benevolence, it leads to feigned professions of respect and friendship; and many manifest it by promises and invitations, never intended to be fulfilled or accepted. It, as well as Self-Esteem, prompts to the use of the first person; but its tone is that of courteous solicitation, while the *I* of Self-Esteem is presumptuous, and full of pretension.

When, on the other hand, the organ is deficient, and the sentiment, in consequence, is feeble, the individual cares little about the opinions entertained of him by others; and, provided they have not the power to punish his person, or abridge his possessions, he is capable of laughing at their censures and contemning their applause. Persons of this sort, if endowed with the selfish propensities in a strong degree, constitute what are termed "impracticable" men; their whole feelings are concentrated in Self, and they are dead to the motive which might induce them to abate one iota of their own pretensions to oblige others. If actuated by any strong passion, and endowed with intellect, it is astonishing what they are sometimes able to accomplish, in attaining their objects. Strangers to ceremony, and indifferent to censure, they meet with a thousand rebuffs which they never feel, and are loaded with an hundred mortifications which never affect them; free from the restraints which delicacy imposes upon others, they practise upon the benevolence, the disposition to oblige, or the interest of mankind, and succeed in circumstances in which a sensitive mind would have found only obstacles unsurmountable.

Philosophers and acute observers of human nature, have long distinguished betwixt Pride and Vanity, but nevertheless, no error is more frequently committed by ordinary minds than to confound them; and no mistake is more common than to imagine that beaux and belles, and all individuals very tasteful and particular about their personal appearance or equipages, are necessarily extremely conceited. A large Love of Approbation and much Ideality, joined with Individuality, which produces attention to details, and Order, will, in general, give rise to the passion for neatness, propriety, and ornament; but such a combination, in place of producing a proud or conceited character, inspires with the very opposite dispositions. I rarely see a *dandy* who is not at bottom a polite, obliging, good-natured, but probably weak individual; and it is only when large Self-Esteem is added to the combination, and which is not an indispensable ingredient in beauxism, that the common opinion will be justified by the result.

This faculty corresponds to the *Desire of Esteem* of Dr. Reid and Mr. Stewart, and to the Desire of Glory of Dr. Thomas Brown. Their observations on its functions are generally correct;

but here, as in the case of Self-Esteem, they treat only of its heroic manifestations, and present us with no views of its operations on the more interesting theatre of private life.

The faculty, when powerful, gives a soft soliciting tone to the voice, puts smiles into the countenance, and produces that elegant line of beauty in the lips which resembles Apollo's bow.

As formerly mentioned, the French are remarkable for a large developement of the organ, while the English excel in Self-Esteem. The influence of the Love of Approbation shows itself in the manners, institutions, and daily literature of France, in an extraordinary degree. Compliments and praises are the current coin of conversation, and a late writer most justly observes, that, "in France, glory is the condiment to the whole feast of life; and the trumpet of fame is that which makes the sweetest music to their ears."* In private life also, an individual, who has a great Love of Approbation in his own head, is extremely prone to pay compliments to others, from an instinctive feeling of the pleasure of being praised. The organ is very large in the American Indians; and the love of decorations and ornaments, whether these consist of stars, garters and medals, or of tatooed faces, bored noses and eagles' feathers, spring from it.

The faculty is more active in women, in general, than in men; and it is observed, that a greater number of women than of men become insane from this feeling. Dr. Spurzheim mentions, that he had met with only one man who had become deranged from this cause. Its effects, when diseased, have already been described in the history of the discovery of the organ.

The organ is possessed by the lower animals. The dog is extremely fond of Approbation, and the horse displays the sentiment, not only in his sensibility to marks of affection, but in his spirit of emulation in the race. Dr. Gall mentions, that, in the south of France, the peasants attach a "bouquet" to the mules when they have acquitted themselves well, and that the animals understand it as a mark of approbation, and feel afflicted when it is taken away. He mentions also, that he had a female monkey, who, on receiving a handkerchief, put it on as a robe, and took extraordinary delight in seeing it trail behind her as a train. In all these creatures the organ is largely developed.

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* Edinburgh Review, Nov. 1820, p. 294.

The organ is large in Dr. Hette, the Rev. Mr. M., in King Robert Bruce, Clara Fisher; and deficient in D. Haggart and Dempsey.

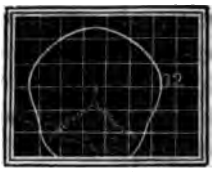
It is established.

12.—CAUTIOUSNESS.

THIS organ is situated near the middle of each parietal bone, where the ossification of the bone generally commences.

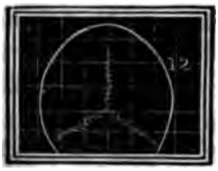
The figures represent its appearance when large and small.

HINDOO.



Cautiousness Large.

FRENCH SKULL.



Cautiousness Small.

Dr. Gall was acquainted at Vienna with a prelate, a man of excellent sense and considerable intellect. Some persons had an aversion towards him, because, through fear of compromising himself, he infused into his discourses interminable reflections, and delivered them with unsupportable slowness. When any one began a conversation with him, it was very difficult to bring it to a conclusion. He paused continually in the middle of his sentences, and repeated the beginning of them two or three times before proceeding farther. A thousand times he pushed the patience of Dr. Gall to extremity. He never happened by any accident to give way to the natural flow of his ideas; but recurred a hundred times to what he had already said, consulting with himself whether he could not amend it in some point. His manner of acting was in conformity with his manner of speaking. He prepared with infinite precautions for the most insignificant undertakings. He subjected every connexion to the most rigorous examination and calculation before forming it.

This case, however, was not by itself sufficient to arrest the attention of Dr. Gall; but this prelate happened to be connected in public affairs with a Councillor of the Regency, whose eternal irresolution had procured for him the nickname of *Cacadubio.* At the examinations of the public schools, these two individuals were placed side by side, and Dr. Gall sat in the seat immediately behind them. This arrangement afforded him an excellent opportunity of observing their heads. The circumstance which most forcibly arrested his attention was, that both their heads were very large in the upper, lateral, and hind parts, the situation of the organ in question. The dispositions and intellectual qualities of these two men were, in other respects, very different; indeed they resembled each other in circumspection, and in this particular developement of head alone. The coincidence between them in this point suggested the idea to Dr. Gall, that irresolution, indecision, and circumspection, might be connected with certain parts of the brain. Subsequent reflection on this disposition, and observation of additional facts, converted this presumption into certainty.

It is a principle in Phrenology, that absence of one quality never confers another. Every feeling is something positive in itself, and is not a mere negation of a different emotion. Fear, then, is a positive sentiment, and not the mere want of courage; and it appears to me that the faculty now under discussion produces this feeling. The tendency of the sentiment is to make the individual apprehend danger; and this leads him to hesitate before he acts, and to trace consequences that he may be assured of his safety. Dr. Spurzheim names it "Cautiousness,"—which appellation I retain as sufficiently expressive, although the primitive feeling appears, on a rigid analysis, to be simply fear. Dr. Gall says, "It was requisite that man and animals should be endowed with a faculty to enable them to foresee certain events, to give them a presentiment of certain circumstances, and to prompt them to provide against danger. Without such a disposition, their attention would have been occupied only with the present; and they would have been incapable of taking any measure with reference to the future." Accordingly, he describes the faculty which prompts to these actions, as if it comprised something intellectual; and calls it "*Circumspection*, *Foresight*." Dr. Spurzheim "does not believe that it foresees; it is, in his opinion, blind, and without reflection, though it may excite the reflective faculties." This observation appears to me correct.

A full developement of this organ is essential to a prudent character. It produces a cautious, circumspect, and considerate disposition of mind. Persons so organized, says Dr. Gall, "are habitually on their guard; they know that it is more difficult to sustain than to acquire reputation, and, consequently, every new undertaking is prosecuted with equal care as the first. They look forward to all possible dangers, and are anxious to anticipate every occurrence; they ask advice of every one, and often, after having received much counsel, they remain undecided. They put great faith in the observation, that, of a hundred misfortunes which befall us, ninety-nine arise from our own fault. Such persons never break any article; they may pass their lives in pruning trees, or in working with sharp tools, without cutting themselves. If they see a vessel placed near the edge of the table, their nerves shrink. If they give credit, or indulge in gaming, they never lose large sums of money. Finally," says he, "they form a standing subject of criticism to their less considerate neighbors, who look on their forebodings as extravagant, and their precautions as trifling and absurd."*

When the organ is too large, it produces doubts, irresolution, and wavering; and may lead to absolute incapacity for vigorous and decisive conduct. A great and involuntary activity of it produces a *panic*,—a state in which the mind is hurried away by an irresistible emotion of fear, for which no adequate external cause exists.

The organ is almost uniformly large in children, and appears, from this circumstance, to be developed at an earlier age than many of the other organs. This is a wise provision of nature, as caution is never more indispensable to the safety of the individual, than during the helpless years of infancy and childhood. Children possessing a large endowment may be safely trusted to take care of themselves; they will rarely be found in danger. When, on the other hand, the organs are small in a child, he will be a hapless infant; fifty keepers will not supply the place of the instinctive guardianship performed by adequate Cautiousness. In a boy of six years of age it was very small, and he took off his clothes to leap into an old quarry full of water to recover his cap, which the wind had blown into it, totally insensible to the danger, which was imminent, of being drowned. In some very young children, the organs are so prominent as to alarm mothers with the fear of disease or deformity. Water in the head indeed frequently shows itself by an enlargement of this part of the skull, and it is not uncommon for unskilful persons to mistake a natural and healthy developement of the organ in question, for an indication of this disease.

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* Sur les Fonctions du Cerveau, tome iv. p. 320.

In mature age, when the organ is very deficient, the individual is rash and precipitate. He is never apprehensive about the results of his conduct, and often proceeds to act without due consideration. Persons of this description are frequently of a gay, careless disposition, and engrossed entirely with the present; they adopt rash resolutions, and enter upon hazardous enterprises, without deliberation or advice. In domestic life, misfortunes overtake them in consequence of their want of precaution. From constitutional recklessness, they precipitate themselves against objects in the dark; they break frangible articles, owing to want of precaution in arranging them; and lose the money which they lend, by omitting to take proper security for repayment. Riding upon a slippery path, quite insensible to danger, their horse falls and deprives them of life. A cat, or other animal, overturns the candle which they have left burning, and sets their house on fire. In short, they are subject to interminable misfortunes, through want of caution in their conduct.*

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* Gall sur les Fonctions du Cerveau, p. 319.

This faculty produces a repressing influence, and, in estimating its effects, the faculties with which it is combined ought to be kept in view. An individual, with large Acquisitiveness and Self-Esteem, which produce instinctive selfishness, was pointed out to me as remarkably careful of his own interest, although the organ of Cautiousness was deficient in his head. It was admitted, however, that his prudence consisted chiefly in resisting solicitations to perform generous actions, and to enter into suretiship; but that, when a tempting prospect of gain was held out to him, although attended with great risk, he was liable to dash into the adventure, and in consequence frequently sustained severe losses. His natural dispositions rendered him little prone to excessive generosity, and in that respect no danger awaited him; but if Cautiousness had been large, it would have rendered him alive to the perils of speculation, and prompted him to prefer small and certain profits, to the chances of greater but uncertain gain.

Extreme and involuntary activity of this faculty produces internal sensations of dread and apprehension, highly distressing to the individual, although often very ridiculous in the eyes of ignorant spectators. Many persons believe that the feelings of the mind depend upon the dictates of the understanding, and that individuals, if they would allow themselves to be convinced of the groundlessness of their apprehensions, might, by an act of volition, remove these terrors. Such notions argue great ignorance of human nature. As easily could we remove a pain from the leg, by resolving to be quit of it, as the unhappy sufferer, under diseased Cautiousness, could dispel the mental gloom by which he is afflicted.

A large developement of this organ, combined with much Destructiveness, predisposes to self-destruction. Cautiousness does not produce suicide as a specific act, but the sentiment, when excited to excess by disease of the organs, gives rise to intense melancholy, anguish, and anxiety, and, by rendering life extremely miserable, indirectly prompts to this result. Hence the fact, that the best of men, and those in whose external circumstances no adequate motive can be found, are sometimes led to that fatal deed.

Let no one suppose such an act done from mere error in judgment. It proceeds always from internal and involuntary feelings of a diseased nature, of the misery and torment of which, no man, who has never felt any thing similar, can form an adequate conception. The great ignorance of mankind in general, regarding the state of mind which predisposes to suicide, has arisen from the influence of the organs having been entirely overlooked, and the fact not being known, that disease in any of them deranges the character of the same feeling which it serves to manifest, and often renders it independent of the will. Dr. A. Combe examined a considerable number of suicides in the Morgue at Paris, and found in them Hope generally small, with Cautiousness and Destructiveness large; and I have seen several similar examples.

Many instances of disease of this organ occur, not only in hospitals for the insane, but in private life. Dr. Gall mentions, that, at Vienna, he attended two fathers of families in easy circumstances, who, nevertheless, were tormented night and day with the apprehension that their wives and children were exposed to die of hunger. The most earnest assurances of their friends were insufficient to make them comprehend that this fear was altogether chimerical. After their recovery, they could not bear to hear their condition mentioned, through terror of a relapse. Before their malady, they were known to be men of gloomy dispositions.

Pinel, under the head of Melancholy, mentions a variety of cases referrible to diseased Cautiousness. "A distinguished military officer," says he, "after fifty years of active service in the cavalry, was attacked with disease. It commenced by his experiencing vivid emotions from the slightest causes; if, for example, he heard any disease spoken of, he immediately believed himself to be attacked by it; if any one was mentioned as deranged in intellect, he imagined himself insane, and retired into his chamber full of melancholy thoughts and inquietude. Every thing became for him a subject of fear and alarm. If he entered into a house, he was afraid that the floor would fall, and precipitate him amidst its ruins. He could not pass a bridge without terror, unless impelled by the sentiment of honor for the purpose of fighting."

The forms in which this affection shows itself are numberless. It is in vain to address the understanding of the patient by argument, because the disease consists in a disordered state of a corporeal organ, and the only consequence of the most irresistible demonstration to the intellect, would be a change of the object of terror, but no alleviation of the feeling of painful apprehension itself.

Dr. Gall mentions, that this organ is possessed in a high degree by those of the lower animals, which venture out only during night, as owls and bats, and also by those animals which place sentinels to warn them of approaching danger, as the wild goose, chamois, cranes, starlings and buzzards.

Among the lower animals, it is generally larger in females than in males; and Dr. Gall mentions some curious facts, illustrative of the greater manifestation of the faculty by the former than by the latter. He happened to kill, says he, as many as 20 squirrels, without finding a single female among them; although it was not the season in which they are confined by the care of their young. He caught, during three years, 44 cats in his garden, among which he found only 5 females. During one winter 500 bears were killed in the two provinces of Virginia, among which only 2 females were discovered. An account of the wolves destroyed in France, from 1st January 1816 to 1st January 1817, was published officially by Count Gerardin, Captain of the Royal Chase, and it showed 1894 males, and only 522 females. Among the goats, the leader is always a female, and their safety it will be recollected, arises from a high degree of circumspection. Among wild cattle, horses, and other animals who are defended by courage, the leader is uniformly a male, for in this sex, in general, Combativeness is larger. This fact, of females in general being more cautious than males, is corroborated by Captain Franklin, in his Journey to the Arctic Regions. "It is extraordinary," says he, "that although I made inquiries extensively among the Indians, I met with but one who said that he had killed a she bear with young in the womb."

It has been remarked, in the way of criticism on these statements, that more males are produced by nature than females; which is quite correct; but this excess of males does not extend to the twentieth part of the difference in the number of their deaths by violence.

The metaphysicians do not treat of "fear," or of the instinctive tendency to avoid danger, as an original principle of the mind; but Dr. Thomas Brown ranks *melancholy* among the primitive emotions, which is one of the effects of this faculty in a state of constant but not violent activity.

The organ is larger in the Germans, English, and Scots, than in the French; and it appears to be larger in the English than in the Turkish head. Mr. Forster, a civil servant on the Madras Establishment, travelled overland from Bengal to England, in the year 1782, disguised as a Turk. In all the numberless scenes through which he passed, he had the address successfully to maintain his disguise, except in one single instance, in which he was detected by one individual, who was led to certainty in the discovery which he made by examining *the shape of the traveller's head.* He says, "a Georgian merchant, who occupied the room next to mine, (it was in Cashmere,) and was a very agreeable neighbor, did not, I observed, give a ready credit to my story, which he cross-examined with some tokens of suspicion; and one day having desired to look at my head, he decidedly pronounced it to be that of a Christian. In a future conversation he explained to me, and proved by comparison, that the head of a Christian *is broad behind*, and *flatted out at the crown;*—that a Mahomedan's head grows narrow at the top, and, like a monkey's, has a conic form." (Forster's *Journey*, vol. ii. p. 33.) This description indicates Cautiousness to be larger in the Christian. It is large in Bruce, Raphael, Hette, the Mummies and Hindoos; moderate in Bellingham, Mary Macinnes and Negroes. The difference between a large and small developement frequently exceeds an inch in extent; and as the organ is particularly easy of observation, it deserves the attention of beginners.

The organ is ascertained.

GENUS III.—OF THE AFFECTIVE FACULTIES.

II.—*Superior Sentiments.*

HITHERTO we have considered Man so far as he is animal. But, besides the organs and faculties already spoken of, common to him with the brutes, he is endowed with a variety of sentiments, which constitute the human character. Of many of these the lower animals appear to be destitute. The convolutions which form the organs of Veneration, Hope, and Conscientiousness in the human brain, run transversely; and in the brains of the lower animals, so far as I have observed, no corresponding convolutions appear. The organs of Benevolence and Imitation, however, which are here classed among the superior sentiments, run longitudinally, and corresponding parts are found in the brains of the lower animals. The faculties now to be treated of produce emotions or feelings.

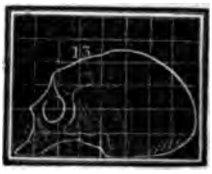
13.—BENEVOLENCE.

THIS organ is situated at the upper part of the frontal bone, in the coronal aspect, and immediately before the fontanel. The figures represent the organ large and small.

JACOB JERVIS.

Benevolence large.

CHARIB.



Benevolence small.

One of Dr. Gall's friends frequently said to him, that, as he sought for external indications of mental qualities, he ought to amine the head of his servant named Joseph. "It is impos-
said his friend, "to find a greater degree of goodness than

that young man possesses. For more than ten years during which he has been in my service, I have seen him manifest, on all occasions, only benevolence, and sweetness of disposition. This is the more surprising, as he does not possess the advantages of education, and has grown up to manhood among servants of very inferior habits." Dr. Gall adds, that, previous to that time, he had been far from supposing that what is called goodness of heart could have any organ in the brain, and, consequently, had never looked for indications of it in the head. The repeated solicitations of his friend, however, at length awoke his curiosity.

He immediately recollected the habitual conduct of a young man, whom he had known from his most tender infancy, and who was distinguished from his numerous brothers and sisters by his goodness of heart. Although he was passionately fond of the games proper to his age, and delighted in scouring the forests in search of birds' nests; yet no sooner did any of his brothers or sisters become sick, than an inclination yet more irresistible kept him at home, and drew from him the most assiduous attentions towards the sufferer. When grapes, or apples, or cherries, were distributed among the children, his share was always the least, and he rejoiced in seeing the others partake more largely than himself. He was never more pleased than when some good fortune happened to those whom he loved, on which occasions he often shed tears of joy. He was fond of taking charge of sheep, dogs, rabbits, pigeons and birds, and if one of these birds happened to die, he wept bitterly, which did not fail to draw upon him the ridicule of his companions. Up to the present time, continues Dr. Gall, benevolence and goodness are the distinguishing characteristics of this individual. These dispositions certainly did not arise from education; on the contrary, he had been all along surrounded by those whose conduct was calculated to produce the very opposite results. Dr. Gall then began to suspect, that what is called *goodness of heart* is not an acquired, but an innate, quality of the mind.

On another occasion, amidst a very large family, he spoke of the boasted *goodness of heart* of the servant Joseph. "Ah!"

said the eldest daughter, "our brother Charles is exactly like him; you must positively examine his head, I cannot tell you how good a child he is."

"I had thus in my eye," says Dr. Gall, "three cases, in which goodness of disposition was strongly marked. I took casts of their heads, placed them along side of each other, and continued to examine them, until I discovered a developement common to the three. This, I at last found, although the heads were in other respects very differently formed. In the meantime, I tried to find similar cases in families, schools, &c. that I might be in a condition to multiply and correct my observations. I extended my investigation to animals also, and, in a short time, collected so great a number of facts, that there is no fundamental quality, or faculty, whose existence is better established than that of Benevolence, and the organ with which it is connected."

The faculty produces the desire of the happiness of others, and disposes to compassion and active goodness. It is easy to distinguish kindness flowing from this sentiment,—from acts of attention, arising from Love of Approbation, or more interested motives. A warmth of manner, and directness of purpose, are communicated by this faculty, that touch the mind at once. We feel its character, and recognise it as genuine, unalloyed goodness, aiming at no end but the welfare of its object. There is, on the other hand, an air of coldness and constraint attending deeds of kindness, proceeding from interested motives, betraying the source from which they flow. The secret spring, and ulterior object, are apparent, notwithstanding the efforts made to conceal them. St. Paul gives a beautiful description of the genuine character of this sentiment, in his account of Christian charity, beginning, "Charity suffereth long and is kind; charity envieth not; charity vaunteth not itself; is not puffed up." The good Samaritan mentioned in Scripture, is a delightful instance of the disposition formed by Benevolence when eminently powerful.

This faculty is a great source of happiness to the possessor. It communicates a lively, amiable, delightful tinge to the impressions received by the mind from without. It produces liberality of sentiment towards all mankind, a disposition to love them, and to dwell on their virtues rather than their vices. A person in whom this feeling is strong, rarely complains of the ingratitude or heartlessness of others. His goodness provides its own reward. The organ appears very large in the mask of Henri Quatre. When some one spoke to him of an officer of the League, by whom he was not loved, he replied, "*Je veux lui faire tant de bien, que je le forcerai de m' aimer malgré lui.*" A person thus endowed is so conscious of wishing well to others, that he does not doubt of their good will towards himself. Adhesiveness attaches us to friends and to country; but Benevolence brings the whole human race within the circle of our affections. Fenelon exhibited a beautiful manifestation of it, when he said, "I am a true *Frenchman*, and love my *country;* but I love *mankind* better than my country." It inspired Henri Quatre also, when he replied to those who exhorted him to rigor towards some places which had joined the League; "La satisfaction qu'on tire de la vengeance ne dure qu'un moment; mais celle qu'on tire de la clemence est eternelle." The organ is large, and very distinctly marked, in the mask of Jacob Jervis, presented by Dr. Abell to the Phrenological Society, and represented on p. 244. That individual possessed the sentiment in so high a degree, that he was obliged to hide himself when he saw persons coming to make improper solicitations, being conscious of his inability to resist them.

It is a vulgar idea that this faculty cannot be manifested, except in bestowing alms or giving away money. It may be exerted in the domestic circle, and in society, in a thousand ways, productive of advantage, without any idea of donation. It is benevolence to those with whom we live, to order our arrangements with a due regard to their comfort and happiness; not to deny them legitimate and proper gratifications of their own dispositions; it is benevolence to suppress our own humors and tendencies, when these would give unnecessary pain to others; to restrain Self-Esteem and Destructiveness, for example, in our commands; to be mild and merciful in our censures; to exert our influence and authority to promote the welfare of others; and one of the most benevolent of all exercises, is to visit the poor and vicious, when suffering and wretched, even with the view of administering only the pecuniary bounty of others.

Deficiency of Benevolence does not produce cruelty or any positively bad sentiment; but it leads to regardlessness of the welfare of others. When the organ is small, a powerful restraint is withdrawn from the lower propensities. In Bellingham, Hare, Griffiths, and other cold-blooded and deliberate murderers, the organ is decidedly deficient. Those in whom this organ is less than Acquisitiveness and Self-Esteem, rarely feel themselves called on to join in works of charity, to contribute to subscriptions, or to bestow personal exertions for the benefit of others; they generally urge the apology, that they have enough to do with themselves, and that nobody manifests Benevolence to them. This last excuse may be just; for it is in the nature of all the higher sentiments to be doubly rewarded; *first*, in the enjoyment which attends the very exercise of them; and *secondly*, in the good will and kindly feeling which the manifestation of them generates in others. Closely connected as men are in society, and dependent, to a greater or less degree, on each other for prosperity and happiness, no individual can enjoy, or leave to his children, a richer and more valuable treasure, than the esteem and affection of his fellows, founded on respect and gratitude for his own virtues and generosity. Such advantages, indeed, the selfish man cannot enjoy; for his conduct excites no benevolence in others towards him, and his selfishness becomes the more necessary, as he has chosen it as his stay. When large Acquisitiveness and Self-Esteem are combined with this organ small, the individual will be an utter disbeliever in disinterested goodness, and will regard generosity, which has no selfish end, as imbecility. Such a combination, also, if joined with much Destructiveness, probably leads its possessors to doubt of the benevolence of the Supreme Being. Deficiency of the organ, in short, exposes the mind to the predominance of the lower feelings, and the temper is then apt to become cold, harsh, sour and unhappy. There is little sympathy with enjoyment; the face of creation does not appear to smile;

moral and physical objects are viewed on their darkest sides; and if Destructiveness be large, the mind steels itself, with malignity, as a defence against their imagined evil qualities; misanthropy, in short, is the result. The character of Lucifer, as drawn by Milton, and by Byron in his drama of Cain, is a personification of great Destructiveness and Intellect, with an utter destitution of Benevolence.

The organ is small in tribes of men remarkable for cruelty, for example, in the Charibs. In the representations of Tiberius, Caligula, Caracalla, Nero, Catherine of Medicis, Christian the Cruel, Danton and Robespiere, says Dr. Gall, the organ is deficient; while it is large in Trajan, Marcus Aurelius, Henri Quatre, and other individuals distinguished for benevolent feeling.

Benevolence, admirable as it is in its own nature, requires to be directed by Conscientiousness and Intellect, otherwise it produces abuses. When too powerful, and not so guided, it leads to profusion. This kind of facility is not the effect of mere weakness of reasoning power; it arises from an over ready disposition to give, without an adequate motive or consideration, except the pleasure of bestowing.

Benevolence very powerful, with deficient Firmness, may lead also to the sacrifice of the just interests of the individual, to the necessities or cupidity of others. In short, this sentiment, indulged without consideration, produces the worst consequences; indiscriminate donations to beggars in the street encourage profligacy; and compulsory assessments for support of the poor, have often proved the parents of idleness and careless conduct. It can never be sufficiently inculcated, that the functions of the different faculties of the mind are distinct, that those which feel give merely an impulse in general, and that Nature intended the direction of them to be placed under the faculties which reason. Hence, the individual who instinctively feels a vivid compassion for every object in distress, ought to be aware, that this impulse is not the voice of inspiration directing him *to the mode* in which it ought to be indulged. On the contrary, the stronger the emotion, the power of direction is not unfrequently the weaker;

because the feeling is in itself of so excellent a character, and so delightful, that the man who is inspired by it is the last to suspect the necessity of much consideration in regard to its exercise. On the other hand, however, it must also be remembered, that the faculties which reason do not feel Benevolence, and that, hence, that individual is most fitted to mature wise plans of charity, to whom Nature has given most of the faculty which feels this emotion, with most of the faculties which trace consequences, and direct it.

It has been objected, that Nature cannot have placed a faculty of Benevolence, and another of Destructiveness, in the same mind; but *Man* is confessedly an assemblage of various qualities. The great modern Novelist speaks of "the well known cases of men of *undoubted benevolence* of character and disposition, whose *principal delight is to see a miserable criminal*, degraded alike by his previous crimes, and the sentence which he has incurred, *conclude a vicious and a wretched life, by an ignominious and cruel death.*"* This indicates Benevolence coexisting in the same individual with Destructiveness. The greatest of Poets has said,—

> "O thou goddess,
> Thou divine Nature, how thyself thou blazon'st
> In these two princely boys! They are as *gentle*
> As zephyrs, blowing below the violet,
> Not wagging his sweet head; and yet as *rough*,
> Their royal blood enchaff'd, as the rud'st wind,
> That by the top doth take the mountain-pine,
> And make him stoop to the vale."

Here Shakspeare informs us, that these boys manifested much Combativeness and Destructiveness, combined with great Benevolence. The sword is one of the emblems of State, and what is it but the symbol of destruction ready to fall on the heads of those who offend against the laws?—ministering thus, in its very severity, to purposes of Benevolence and Justice. What are the implements of war but instruments of destruction; and for what end do soldiers take the field, but to destroy their enemies? And yet, surgeons and numerous assistants attend on armies, to succor those on whom the calamities of war have fallen; the two faculties, which are deemed incompatible, being thus manifested together, with deliberate design. Without Combativeness and Destructiveness there would be no war; and without Benevolence, if these existed, there would be neither mercy nor compassion. Instead, therefore, of the coexistence of these faculties forming an objection to the phrenological system, it proves its harmony with nature.

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* St. Ronan's Well.

So far, indeed, are Benevolence and Destructiveness from being incompatible, that the latter is frequently the means of calling the former into vivacious activity, and both feelings are found in a state of high excitement at the same moment. "Destructiveness," says Mr. Scott, "may often come in aid of Benevolence or of Justice, or of the other superior sentiments, resisting every species of fraud, oppression, and wrong. Thus, in the character given of himself by Job, he says, 'I brake the jaws of the wicked, and plucked the spoil out of his teeth.'" It would be difficult to find a more striking and appropriate example of the simultaneous activity of Destructiveness and Benevolence, than that furnished by the beautiful and pathetic stanzas of Burns, written "on seeing a wounded hare limp by him, which a fellow had just shot at;" nor would it be easy to decide which of the two faculties had the ascendency in the poet's mind on the occasion—so vehemently has he given vent to both. The last line, it will be observed, he has dedicated equally to the expression of each:—

"Inhuman man! curse on thy barb'rous art,
And blasted be thy murder-aiming eye;
May never pity soothe thee with a sigh,
Nor ever pleasure glad thy cruel heart!

Go live, poor wanderer of the wood and field,
The bitter little that of life remains:
No more the thickening brakes and verdant plains
To thee shall home, or food, or pastime yield.

Seek, mangled wretch, some place of wonted rest,
No more of rest, but now thy dying bed!
The sheltering rushes whistling o'er thy head,
The cold earth with thy bloody bosom prest.

> Oft as by winding Nith, I, musing, wait
> The sober eve, or hail the cheerful dawn,
> I'll miss thee sporting o'er the dewy lawn,
> *And curse the ruffian's aim, and mourn thy hapless fate.*"

The individual who thus received the malediction of Burns related to Allan Cunningham the circumstances from which this poem took its rise. "The hares," he said, "often came and nibbled our wheat-*braird*; and once, in the gloaming,—it was in April,—I shot at one, and wounded her: she ran bleeding by Burns, who was pacing up and down by himself, not far from me. He started, and, with a bitter curse, ordered me out of his sight, or he would throw me instantly into the Nith. And, had I stayed, I 'll warrant he would have been as good as his word, though I was both young and strong."* The character of Burns was, in fact, of a sort which Phrenology alone enables us to explain. "By nature kind, brave, sincere, and in a singular degree compassionate, he was, on the other hand," says Dr. Currie, "proud, irascible, and vindictive." So opposite are the elementary faculties which constitute the human mind!

Benevolence cannot be compensated by Adhesiveness and Conscientiousness, or any other faculties. A daughter, wife, or sister who possesses large Benevolence will, at a sick bed, show an anxiety to alleviate suffering, a softness and sympathy of manner, and, if Intellect is possessed, a facility of invention in devising means of relief, that will be truly admirable and to the patient invaluable But if this organ be deficient, although the attendant may, through Intellect and Conscientiousness, do every thing that is suggested by others, she will neither feel, sympathize with, nor assiduously labor to assuage the patient's pain. This observation applies to every department of life in which Benevolence can be manifested. When it is small, the well-spring of goodness flowing towards misery to relieve it is wanting.

Dr. Gall refers, not only the feeling of benevolence, but the sentiment of justice, to the faculty now under consideration. "The reader will remember," says he, "that I could not discover the functions of the different organs, except when I met with them in a state of extreme developement, and when, consequently, the faculties were manifested with excessive energy. A mental power, in a state of high excitement, sometimes exhibits a character quite different in appearance from its ordinary form of manifestation. Libertinism is the consequence of over activity of Amativeness, and theft of Acquisitiveness. It is the same with Benevolence. The individuals who had become remarkable on account of uncommon goodness of heart, presented an extreme developement of the organ in question. Consequently, Goodness, Benevolence, Sensibility to Distress, are not the primitive destination, or ordinary function of this organ; but the manifestation of its exalted condition. Benevolence, therefore, is something more than the primitive function of the organ from which it proceeds. What is the original sentiment? It being extremely difficult to make positive observations on the fundamental destination of an organ, I am obliged," continues Dr. Gall, "to resort to reasoning; and I think there are plausible grounds for holding, that the primitive tendency connected with this organ is that which disposes man to conduct suitable to the maintenance of social order: I call it *the Moral Sense, the sentiment of Justice and Injustice.*" He proceeds with a variety of arguments, and arrives at the conclusion, that Benevolence "n'est qu' un degré d'action plus élevé du sens moral."*

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* Lockhart's Life of Robert Burns, p. 199.

Dr. Spurzheim dissents from this view, and holds Conscientiousness to be a distinct sentiment, of which he has discovered and established the organ; although it was not admitted by Dr. Gall. There are only two ways of settling this dispute; the one by metaphysical analysis of the feeling, and the other by observation of the organ. The result of both appears to me to be in favor of Dr. Spurzheim.—I shall revert to the subject when treating of the organ of Conscientiousness.

In another point, also, in regard to this organ, Dr. Spurzheim differs from Dr. Gall, and apparently on good grounds. "An opinion of Dr. Gall's," says he, "of which I cannot approve, is, that Benevolence may degenerate into bad temper, and into the propensity to rejoice in the evil that happens to others, in the same way as the sense of taste may degenerate into disgust at food, physical love into aversion to the other sex, and the sense of melody to aversion to music. The inactivity of Benevolence, or its exhausted state, may produce indifference to its functions, and make us avoid any opportunity of doing beneficent actions; but active wickedness, and pleasure in the pains of others, like cruelty, depend on inferior feelings, unaccompanied by superior sentiments."*

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* Sur les Fonctions du Cerveau, tome v. p. 273, et sequen.

This organ is found in the lower animals, and when it is largely developed, they are mild and docile; whereas, when it is deficient, they are vicious, ill-natured, and intractable. Dr. Gall gives some interesting illustrations of this fact. The head of the tiger, says he, is more flat at this part than that of the lion; and the heads of the hyæna and wolf are more depressed than that of the dog. The organ is greatly depressed immediately above the level of the eyes, in the baboon; while, on the contrary, it is elevated in the ouran-outang; and the dispositions of all these animals are in accordance with their developement. In the horse, the organ is placed in the middle of the forehead, a little above the eyes. When this region is hollow and narrow, a horse is invariably vicious, and disposed to bite and to kick. In mild and good natured horses, on the contrary, this part stands as far out as the eyes, or even farther. The driver of a cabriolet of Neuilly, says Dr. Gall, bought, at a low price, a horse which nobody could use on account of its extreme bad temper; but it was an excellent runner. In the first week it bit off two of the driver's fingers, and one of his ears. He attempted to correct it by redoubled blows, but these rendered it only more vicious. He then resolved to try the effect of gentle treatment, and this succeeded to a certain degree. The organ in question was very small in this animal; and the same conformation will be found in all horses which require to be muzzled, to prevent them from biting. On one occasion, a gentleman in the country mentioned at his dinner table that he had two horses, one extremely mild, and the other very vicious, in temper. They were brought out into the stable-yard, and by examining their heads, according to Dr. Gall's directions, I pointed out each, without having previously seen them. The difference was so great, that several persons who were present recognised it, the moment they were told where to look for it. I have seen this experiment repeated with invariable success.

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* Phrenology, p. 215.

The same rule holds in regard to dogs. Dr. Gall saved two puppies of a litter of five, and watched their dispositions with the closest attention. Even before their eyes were opened he remarked a great difference between them; one of them, when taken into the hand, testified, by its gestures, that it was pleased; the other growled, whined, and struggled till it was put down. Scarcely were they fifteen days old, when one indicated, by the motions of its tail, contentment and gentleness, not only towards other little dogs, but to persons who approached it; the other, on the contrary, never ceased to grumble, and to bite every one within its reach. Aware how much was attributed to education, Dr. Gall charged those who habitually approached these animals to bestow equal caresses on each. He himself took the greatest pains to soften the disposition of the ill-natured one, but nothing could change its character. It bit even its mother, if she chanced to incommode it. In the sixth month, the dogs were seized with distemper, and with whatever degree of gentleness they were treated, the one never ceased to growl and bite, till death put an end to its efforts; while the other, on the contrary, till its last moment, gave the most striking marks of attachment and gratitude to those who took charge of it. Even the servants were forcibly struck with the difference in the dispositions of these animals. Dr. Gall states, that the difference in their heads was equally conspicuous.

In observing this organ in the lower animals, it is necessary to be acquainted with the osteology of their skulls, to be able correctly to distinguish its place. In some of them, the elephant, the sow, &c. the two tables of the skull are not parallel at this part, and hence the size of the organ in them cannot be ascertained, except by dissection. In the bull and cow, the inner table is separated to some distance from the external table, but the two tables are parallel n the region of this organ, and on this account its size may be judged of during life. The same is the case, says Dr. Gall, with the cat.*

"There are examples," says Dr. Spurzheim, "on record, where animals have shown high degrees of benevolence to others, and even to man. A respectable family in Paris told me, that they had a horse and a cow living together in the same stable; that the horse several times got untied, went to the corner where the sack of oats stood, and drew it in his teeth near the cow; probably to make her partake of the good cheer. Many dogs also exhibit the same feeling. Dupont de Nemours saw a swallow caught by one foot in the noose of a packthread, attached to the roof of the French Institute at Paris. The prisoner screamed, and attracted all the swallows of the neighborhood. After a long and tumultuous consultation, a great number formed a line, one after another, darted at the packthread with their bills, and in half an hour delivered the captive."†

Some incidents of a similar nature have happened in this country. Dr. Millar favored me with the following statement:—"The Reverend Dr. Wodrow, late of Stevenston in Ayrshire, when clergyman of Dunlop, a parish in the same county, narrates a curious fact, concerning swallows, in a letter to his relative, Mrs. Thomson of Edinburgh."—"At Dunlop manse, says he, in a very dry summer, one of their nests, attached to the corner of the parlor window, fell down, and lay on the window-sill, without any damage done either to the nest or its helpless inhabitants, four or five young ones. It was a few minutes before breakfast, when I observed the accident; and soon after it happened, I went out and carefully placed it on the top of a cut hedge, and I waited to see the event. It was pleasant to see the young ones fed at proper intervals, and, at the same time, a great number of other swallows jointly and busily employed, in a warm summer morning, in building a new nest in the same place with the former; some of them bringing clay, straws, &c.: others making use of these materials; others dipping themselves into an open well, and plashing the walls of the nest, and all of them cheering one another to the useful work. In two hours the new nest was completely finished, and then the young ones were carried through the air under the wings of one, sometimes two, old swallows, and safely placed in their lodging; after which the noise and cheering of the troop ceased." Dr. Poole also stated to me, that a cat having seized a young sparrow, a flock of these birds perceiving it, attacked the cat, fastened on its back, pecked and flapped till they made it let go its hold, and rescued the intended victim. This happened in a garden behind St. John Street, Edinburgh, and was witnessed by a neighbor of Dr. Poole's, who communicated the circumstance to him. Dogs also are known to precipitate themselves into the water, to save persons in danger of being drowned; and they attack with fury assassins who assail their masters.

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* Sur les Fonctions du Cerveau, tome v. p. 327.

† Phrenology, p. 218.

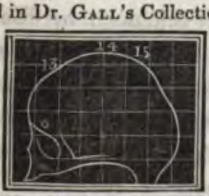
I have mentioned before, that stimulating liquors, by exciting the organs, give energy to the feelings or propensities which depend on them for the means of manifestation. Some individuals become excessively profuse when intoxicated. They would then give the world away; or, if they had the power, they would create a new one, in which every individual should enjoy infinite happiness. On the *principle*, that intoxication can never create any feeling, I am inclined to think that such persons have naturally a large endowment of Benevolence, the organ of which is stimulated to this great activity by strong potations. This, however, is only a conjecture.

This organ is liable to excessive excitement by disease. Dr. Gall mentions the case of a hussar, who had always manifested great benevolence of disposition, and subsequently became insane. He gave away all his clothes, and left himself absolutely naked; he never ceased repeating that he wished to make every one happy, and he introduced into all his projects of beneficence the Holy Trinity. In his head the organs of Benevolence and Veneration were extremely developed. Idiots in whom this organ is largely developed are good-natured and harmless; while those in whom it is small, if Destructiveness be large, are mischievous and wicked. The Scotch metaphysicians in general admit the existence of this sentiment, but Hobbes, and many other metaphysical writers, who resolve all our actions into selfishness, deny it. Dr. Thomas Brown successfully and beautifully answers the objection, that we are selfish even in our feelings of good-will. "The analysis of Love," says he, "as a complex feeling, presents to us always two elements; a vivid delight in the contemplation of the object, and a desire of good to that object. Though we cannot, then, when there is no interfering passion, think of the virtues of others *without pleasure*, and must therefore, in loving virtue, *love what is by its own nature* pleasing, the love of *the virtue which cannot exist without the pleasure*, is surely an affection very different from the love of the mere pleasure existing, if it had been possible for it to exist, *without the virtue*,—a pleasure that accompanies the virtue only, as the soft or brilliant coloring of nature flows from the great orb above,—a gentle radiance that is delightful to our eyes, indeed, and to our heart, but which leads our eye upward to the splendid source from which it flows, and our heart still higher, to that Being by whom the sun was made."[*]

14.—VENERATION.

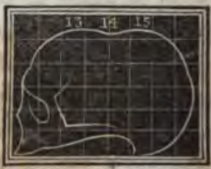
This organ is situated at the middle of the coronal aspect of the brain, at the bregma or fontanel of anatomists. The figures represent it large and small.

Skull in Dr. Gall's Collection.



Veneration large, Benevolence and Firmness deficient.

Dr. Hette.



Benevolence and Firmness large, and Veneration deficient.

Dr. Gall gives the following account of the discovery of this organ. His father's family consisted of ten children, who all received the same education, but their talents and dispositions were very dissimilar. One of his brothers manifested from infancy a strong tendency towards religion. "Ses jouets étaient des vases d'église qu'il sculptoit luimeme, des chasubles et des surplis qu'il faisait avec du papier." He was constantly engaged in prayer, and in saying mass, and when obliged to be absent from church, he spent his time in ornamenting and gilding a crucifix of wood. His father had intended him for a merchant, but he himself disliked that occupation, because, said he, it exposed him to the necessity of lying. At the age of twenty-three years he abandoned merchandise; and having lost all hope of being then able to pursue the studies requisite for the Church, he fled from his father's house and became a hermit. His father then allowed him to study; at the end of five years he took orders, and continued, till the period of his death, to live in the exercise of devotion and the practice of penance.

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[*] Lecture 59.

Dr. Gall farther remarked, that, in schools, some of the children took no interest in religious instruction, whilst others received it with avidity: also, that those individuals in the classes, who voluntarily devoted themselves to the Church, were either studious, pious, virtuous, and honorable young men, or idlers of the worst description, indolent, and totally destitute of talent. The latter, he observes, obviously had no other aim than that of living at the expense of their fellow citizens; while the former felt a lively interest in the vocation to which they aspired. This commendable feeling sprung up in them, says he, nobody knew how, and it certainly was not attributable to example or education, or the circumstances in which they had been placed; for many of them had embraced the profession of the Church, even contrary to the intention of their parents and guardians. These facts convinced him that the disposition to religion is innate.

At a later period, no sooner had he fixed his attention on some of the primitive qualities of mind, than he recollected these observations made in his youth, and immediately examined the heads of persons eminent for devotion. He visited the churches of every sect, and particularly observed the heads of individuals who prayed with the greatest fervor, or who were the most completely absorbed in their religious contemplations. The result was the establishment of the part of the brain in question as the organ of Veneration.

Catholic countries afford particularly favorable opportunities for such observations. Dr. Bright, a traveller in Lower Hungary, informs us, that, in Vienna, "The churches are almost constantly open, and enter them when you will, servants, who have been sent on errands, are seen kneeling before the altars or the images, with their baskets or parcels by their sides. Thus prayer, by its frequency, becomes a habit and recreation, rather than the performance of a duty; and I have often been truly astonished to observe, in the coldest weather, little children, when far from the restraints of their parents, fall down upon their knees before the images which adorn many of the corners of the streets and passages in Vienna, and there remain fixed for several minutes, as in serious devotion."* I have observed similar facts in Catholic cities on the Continent.

The function of the faculty is to produce the sentiment of Veneration in general; or an emotion of profound and reverential respect, on perceiving an object at once great and good. It is the source of natural religion, and of that tendency to worship a superior power, which manifests itself in every nation yet discovered. The faculty, however, produces merely an emotion, and does not form ideas of the object to which it ought to be directed; and hence, if no revelation have reached the individual, and if the understanding be extremely limited, the unfortunate being may worship the genius of the storm; the sun, as the source of light, heat, and vegetable life; or, if more debased in intellect, he may worship brutes, and stocks, and stones;

> "Lo! the poor Indian, whose untutored mind,
> Sees God in clouds, or hears him in the wind."

The organ is large in Negroes, and also in Mary Macinnes, who was extremely prone to superstition.

It has been objected, that, if an organ and faculty of Veneration exists, revelation was unnecessary. But Dr. Gall has well answered, that the proposition ought to be exactly reversed, for unless a natural capacity of feeling religious emotion had been previously bestowed, revelation would have been as unavailing to man as it would be to the lower animals; while, if a mere general feeling of devotion, or an instinctive but blind tendency to worship, which Veneration truly is, was given, nothing was more reasonable than to add instruction how it ought to be directed. Dr. Gall observes, farther, that the existence of the organ is an indirect proof of the existence of God. Destructiveness is implanted in the mind, and animals exist around us to be killed for our nourishment: Adhesiveness and Philoprogenitiveness are given, and friends and children are provided as objects on whom they may be exercised: Benevolence is conferred on us, and the poor and unhappy, on whom it may shed its soft influence, are everywhere present with us; in like manner, the instinctive tendency to worship is implanted in the mind, and, conformably to these analogies of nature, we may reasonably infer that a God exists whom we may adore.

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* Pages 43, 44.

The organ is possessed by all men, but in different degrees by different persons: and, on the principle, that the natural power of experiencing an emotion bears a proportion to the size of its organ, every sane individual will be naturally capable of joining in religious worship; but the glow of devotional feeling experienced by each, will be greater or less in intensity, according to the developement of this part of his brain. The difference in the feeling is certain, independently of Phrenology, so that this science only reveals the relation between its intensity and the size of the organ.

The organ is large in King Robert Bruce, who, it is mentioned in History, was strongly alive to religious feelings, and ordered his heart to be carried to the Holy Land, because he had not been able to fulfil a vow to visit it in person. It is large also in Raphael, and the subjects which chiefly occupied his pencil were connected with devotion and the Church.

Dr. Gall mentions, that, in the portraits of Saints remarkable for devotional feeling, this organ is represented as large, and that the same configuration of head has been given by the ancient artists to their High Priests. It is large in the portraits of Constantine, Marcus Aurelius, St. Ambrose, Charles I. of England, and Malebranche. It is also greatly developed in philosophers and poets who are distinguished for piety, as in Newton, Milton, and Klopstock; while it is flat in the head of Spinosa, who professed atheism. The same configuration is found in the heads of Christ, represented by Raphael. In these, the parts behind the ear, or the organs common to man and the lower animals, are small; whereas the organs, situated in the forehead and in the coronal region, connected with intellect and the moral sentiments, are very large. This organization indicates great intellectual penetration, with exalted Benevolence and Veneration. Dr. Gall puts the question, Has this divine form of head been invented, or may we presume that it is a faithful copy of the original? It is possible, says he, that the artists may have imitated the heads of the most virtuous, just, and benevolent men whom they could find, and thence drawn the character of the head of Christ. In this case, the observation of the artists coincides with that of Dr. Gall, — a circumstance which either supposes a kind of presentiment of Organology on their part, or an accuracy of observation scarcely admissible. He considers it more probable, that the general type, at least, of the head of Christ has been transmitted to us. St. Luke was a painter, and how should he fail to preserve the features of his Master? It is certain that this form of the head of Christ is of a very high antiquity. It is found in the most ancient pictures and specimens of mosaic work. The Gnostics of the second century possessed images of Christ and of St. Paul; hence Dr. Gall concludes, that neither Raphael nor any other artist has invented this admirable configuration.*

The metaphysicians in general do not admit Veneration as an original emotion; they trace the belief in God to the perceptions of the understanding. We perceive order, beauty, power, wisdom, harmony, in the works of Creation, and infer from these qualities that a supreme creating and directing Mind exists. In this view the phrenologists concur: the understanding, however, only perceives facts and draws inferences, but does not feel emotions; and, therefore, after this deduction was completed, it would experience no tendency to adore the God whom it had discovered. Now, in point of fact, the tendency to worship is a stronger principle than the understanding itself; for the most ignorant and stupid are prone to venerate, while their intellects are incapable of directing them to an object worthy of their homage. Under the influence of a blind Veneration, men cut branches from trees, and fall down and worship them; or they adore monsters and reptiles as deities,—facts which were utterly inexplicable, till Phrenology pointed out an instinctive tendency to venerate, altogether apart from understanding. This tendency is produced by the faculty in question, and it is a great omission of the old philosophers, that no such power is to be found in their systems.

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* Sur les Fonctions du Cerveau, tome v. p. 389. See also a Brief Notice of some Ancient Coins and Medals, as illustrating the Progress of Christianity, by the Rev. R. Walsh, LL. D. Chaplain to the Embassy at Constantinople.

Hitherto we have considered Veneration only when directed to religion, which is undoubtedly its noblest end; but it has also many other objects, and a wide sphere of activity, in the present world. It produces the feeling of deference and respect in general; and hence may be directed to every object that seems worthy of such regard. In children, it is a chief ingredient in filial piety, and produces that soft and almost holy reverence with which a child looks up to his parent as the author of his days, the protector of his infancy, and the guide of his youth. A child in whom this organ is small, may, if Benevolence and Adhesiveness be large, entertain great affection for his parent as a friend; but, in his habitual intercourse, there will be little of that deferential respect which is the grand feature of the mind, when the organ is large. Children who are prone to rebellion, little attentive to command, and regardless of authority, will generally be found to have Self-Esteem large, and this organ proportionally deficient.

Veneration leads to deference for superiors in rank as well as in years; and prompts to the reverence of authority. This organ is generally largely developed in the Asiatic head, and the tendency to obedience is strong in the people of that quarter of the globe. Indeed, the hereditary slavery which has descended among them through so many generations, may be connected with the prevalence of this disposition.

A lady who is in the habit of examining the heads of servants before hiring them, told me, that she has found, by experience, that those in whom Veneration is large, are the most deferential and obedient; and that one with large Combativeness and Destructiveness, and small Veneration, became angry and abusive, when her conduct was censured. This occurred, even although Love of Approbation and Conscientiousness were both large; but the passion speedily subsided, and was followed by self-reproach and repentance. If Veneration also had been large, it would have produced that instinctive feeling of respect, which would have operated as instantaneously as Combativeness and Destructiveness, and restrained the ebullitions.

Veneration may also produce respect for titles, rank and power; for a long line of ancestry, or mere wealth; and it frequently manifests itself in one or other of these forms, when it does not appear in religious fervor. Individuals in whom Love of Approbation and Veneration are very large, and Conscientiousness and intellect not in proportion, venerate persons of higher rank than their own, and are fond of their society. Persons of rank, who do not possess high virtues or talents, are fondest of the society of those in whom this combination occurs. It inspires its possessor with an habitual deference towards them, which is felt as a constant homage. On occasion of King George the Fourth's visit to Scotland in 1822, some individuals experienced the profoundest emotion of awe and respect on beholding him; while others were not conscious of any similar excitement, but were surprised at what appeared to them to be the exaggerated enthusiasm of the first. I examined the heads of several of both classes, and, in the former, found the organ of Veneration uniformly larger, in proportion to the other organs, than in the latter.

This faculty is likewise the source of the profound awe which some persons feel in visiting ancient temples, gothic cathedrals, and places of sepulture for the illustrious dead. It gives reverence for church-yards, and other burial-places of our ancestors. A person in whom it is small experiences a feeble influence, even from Westminster Abbey and the monuments of departed genius there preserved. This sentiment is one ingredient in the tendency to antiquarianism, and the love of old coins.

Veneration, like other powers, is liable to abuse. When not subjected to the guidance of Reflection and Conscientiousness, it produces a bigoted respect for old customs and absurd institutions, if *only* sanctified by time; and a blind tendency to admire the wisdom of our ancestors, beyond its real worth. It gives reverence for great names and authorities in religion and philosophy, and thus often presents a strong obstacle to the progress of truth. In case any subsequent disciple of Phrenology should hereafter misdirect his Veneration to the early converts to the science, and suppose us possessed of superior wisdom and information, because we lived in the age of Dr. Gall and held friendly converse with Dr. Spurzheim, it may not be improper to observe that such notions will be extremely unfounded — we perceive that knowledge has only dawned on us, and that the duty will remain to our successors to improve Phrenology through many generations. This kind of Veneration maintains every unenlightened devotee in a state of bigoted subjection to his priests: an emotion of profound and sanctified respect springs up in his mind on contemplating the doctrines which they have instilled into him in his youth, and every suggestion of the understanding, in opposition to this feeling, is expelled as profane. In short, Veneration, when vigorous and blind, produces complete prostration of the will and the intellect to the object to whom it is directed, and, even in our own country, it frequently holds back the march of improvement. The Holy Allies were bent upon cultivating this sentiment to the highest possible degree in their subjects, and prostrating reason; they encouraged monks, processions, and superstitious observances, while they banished philosophers and excluded works of science. If it had been possible to succeed, these Sovereigns would have rendered their people blind worshippers of their own power, and trained them to bow in humble subserviency to their will. The Spaniards are a noble people, but, while their intellects have been shackled for many centuries, Veneration has been cultivated to an extravagant height, and misdirected, in consequence of which they have fallen into a benighted and superstitious condition.

This faculty, when unenlightened, produces every kind of superstition, as worshipping beasts, and stocks and stones. The Negroes, Indians, and even the Hindoos, have a poor intellectual developement, compared with Europeans, and their superstitions are more gross. Socrates did not participate in the absurd superstitions of Greece, and in the ancient busts of him, he is represented with a splendid forehead.*

Defect of Veneration does not produce profanity, but only indifference to religious sentiments, and little reverence for power and ancestry. I have found Veneration large in the head of the genuine Tory,—in him who really delights in contemplating kings and nobles, and regards them as invested with a degree of sanctity by a long line of descent, and the possession of hereditary authority. In the genuine Whig or republican, who sees in kings and nobles only men liable to all the frailties of human nature, and requiring checks to prevent them from abusing power, Veneration is generally smaller, in proportion to their intellectual endowment. When Veneration, Self-Esteem, Conscientiousness, and Intellect, are all well developed, the individuals are moderate whigs or moderate tories, and readily approximate in their sentiments. They ought to exercise mutual forbearance ; their different feelings being the result of different natural constitutions. These observations are limited to genuine tories and genuine whigs, for a man may profess toryism through love of place, and whiggery through mere factiousness, and in such cases other organs will predominate.

As nature has implanted the organ of Veneration in the brain, and the corresponding sentiment in the mind, it is a groundless terror to apprehend that religion can ever be extinguished, or even endangered, by the arguments or ridicule of the profane. Forms of worship may change, and particular religious tenets may now be fashionable, and subsequently fall into decay ; but while the human heart continues to beat, awe and veneration for the Divine Being will ever animate the soul; the worshipper will cease to kneel, and the hymn of adoration to rise, only when the race of man becomes extinct.

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* A copy of his bust will be found in the Phrenological Hall.

The natural language of this faculty carries the head upwards in the direction of the organ. The voice is soft, subdued, reposing, and adoring. The greatest difference is perceptible in the tones and manner of prayer of clergymen in whom the organ is large, compared with those in whom it is small; there is a soft breathing fervor of devotion in the former, and a cold reasoning formality in the latter. I have found the organ uniformly large in clergymen who selected the Church from natural liking, and not merely as a means of subsistence.

The organ is generally larger in the female head than in the male; and women are more prone to devotion.

Dr. Gall treats of this sentiment as producing religious feeling alone; and to Dr. Spurzheim is due the merit of analyzing it, and treating it as the source of the emotion of reverence and respect in general.

Nothing is more common in the hospitals for the insane, says Pinel, than cases of alienation, produced by devotional feelings excessively exalted; by conscientious scruples carried to prejudicial excess, or by religious terror. As this kind of insanity, says Dr. Gall, is often present without derangement of the other faculties, physicians ought to have inferred that it is connected with disease of a particular part of the brain. He and Dr. Spurzheim saw, in the hospital of Amsterdam, a patient who was tormented with the idea that he was compelled to sin, and that he could not possibly be saved. In him the organ of Veneration was very largely developed. In a priest, who despaired of salvation, and in another patient, who had the confirmed idea that he was condemned to eternal punishment, the organ was also very large. A woman named Elizabeth Lindemann, was brought to Dr. Gall. At the first glance he perceived that she possessed this organ in an extraordinary degree; she continued standing before him, lifting her eyes from time to time to Heaven, and indicating, by all her gestures, sadness and anguish. From her youth, she had been excessively addicted to prayer. For some time previous to the interview with Dr. Gall, she "had been subject to convulsions, and maintained that she was possessed; the devil, she said, entered into her heart by her mouth, and made efforts to carry her to hell." Dr. Gall mentions also, that he had seen, in the collection of M. Esquirol, casts of the heads of three persons subject to religious insanity. In all the three the organ of Veneration was largely developed. If, says Gall, M. Esquirol continues for some time to mould the heads of the insane and to preserve their skulls, he will not fail to become one of the most zealous and enlightened disciples of Organology. Esquirol very justly remarks on this subject, that although a particular sermon has often been blamed for producing this species of insanity, yet it would not have had that effect, unless there had been a predisposition to the disease, probably a pre-existence of it, in the individual. In Dublin, I saw patients insane from Veneration.

The organ is established.

15.—FIRMNESS.

THIS organ is situated at the posterior part of the coronal region of the head, close upon the middle line.

Dr. Gall observed, that persons of a firm and constant character have this part of the brain much developed; and Lavater had previously distinguished the same configuration, in concomitance with that kind of disposition. It is difficult to determine, by analysis, the ultimate principle of this faculty. Dr. Gall remarks, that, properly speaking, Firmness is neither an inclination nor a faculty; "*c'est une manière d'être qui donne à l'homme une empreinte particulière que lo'n appelle le caractère;* he who is deficient in it," says he, "is the sport of external circumstances, and of communicated impressions." Its effects, says Dr. Spurzheim, are mistaken for Will; because those in whom it is large, are prone to use the phrase "I will," with great emphasis, which is the natural language of determination; but this feeling is different from proper volition. It gives fortitude, constancy, perseverance, determination, and, when too energetic, produces obstinacy, stubbornness, and infatuation. It will be found very large in stubborn and untractable children.

The organs of Self-Esteem, Concentrativeness, and Firmness, form a group which has no relation to external objects; their influence terminates on the mind itself; and they add only a quality to the *manifestations* of the other powers: thus Firmness, acting along *with* Combativeness, produces determined bravery; with Veneration, sustained devotion; and with Conscientiousness, inflexible integrity. It gives perseverance, however, in acting only on the other faculties which are possessed in an available degree. An individual having much Firmness and considerable Tune, may persevere in making music;—if Tune were greatly deficient, he would not be disposed to persevere in that attempt; but if he possessed much Causality, he might persevere in abstract study. At the same time Dr. Gall justly remarks, that Firmness of character ought not to be confounded with perseverance in gratification of the predominating dispositions of the mind. Thus an individual, in whom Acquisitiveness is the strongest propensity, may, although Firmness be deficient, exhibit unceasing efforts to become rich, but he will be vacillating and unsteady in the means which he will employ;—he will to-day be captivated by one project; to-morrow by another; and the next day by a third; whereas, with Firmness large, he would adopt the plan which appeared to him most promising, and steadily pursue it to the end.

When this organ predominates, it gives a peculiar hardness to the manner, a stiffness and uprightness to the gait, with a forcible and emphatic tone to the voice.

A due degree of it is essential to the attainment of eminence in any difficult pursuit. Dr. Gall observes, that, when it is large, the motto of the individual will be, "*Tu ne cede malis, sed contra audacior ito.*" It produces the "*tenax propositi vir.*" The organ is larger in the British than in the French, and the latter are astonished at the determined perseverance of the former, in the prosecution of their designs, whether these relate to the arts, sciences, or war. Napoleon knew well the weakness of the French character in this point, and, in his conversations, recorded by Count Las Cases, frequently complains of it. In war, the effects of this organ are very conspicuous in the conduct of the two nations. The French, under the influence of a large Combativeness, and moderate Cautiousness, make the most lively and spirited attacks, shouting and cheering as they advance to the charge; but if steadily resisted, their ardor abates; and, from deficiency in Firmness, they yield readily to adversity. The British, on the other hand, advance to the assault with cool determination, arising from great Firmness, and considerable Cautiousness and Secretiveness; and although repulsed, they are not discomfited, but preserve presence of mind to execute whatever may appear most advisable in the circumstances which have occurred.

This faculty contributes greatly to success in any enterprise, by communicating the quality of perseverance. Exhaustion will damp the ardor of the bravest after much exertion, and hence he who is able to maintain his faculties in a state of vivid application for the greatest length of time, will at last frequently succeed, by merely wearying out his opponent. Fortitude and patience, also, as distinguished from active courage, result from this faculty. The organ is large in the American Indians, and their powers of endurance appear almost incredible to Europeans. Dr. Gall found it very large in a highwayman, who was exceedingly hardened in crime. He was kept in close confinement for a considerable time, with the view of forcing him to disclose his accomplices; but this had no effect, and he was then put to the torture by beating. Finding this infliction intolerable, he strangled himself with his chain. After his death, the parietal bones were found separated precisely at the point where the organ of Firmness is situated. Dr. Gall could not determine whether the separation arose from the violent strangulation, the excessive energy of the organ, or from accident; but records the fact, to call attention to similar cases, should they occur in future. This organ, and that of Destructiveness, are very large also in John Thurtell, executed for the murder of Weare, and he manifested both powerfully in his conduct. The organ is also very large in King Robert Bruce; and he was distinguished for unshaken firmness, in circumstances in which an ordinary mind would have been overwhelmed by despair. It is large in Haggart, who also manifested determination in crime and constancy in suffering, in a remarkable degree.

When the organ is small, the individual is prone to yield to the impulses of his predominating feelings. When Benevolence assumes the sway, he is all kindness; when Combativeness and Destructiveness are excited, he will be passionate, outrageous, and violent; and thus afford a spectacle of habitual weakness and inconsistency. If Love of Approbation and Benevolence be large, and Firmness small, solicitations will, with great difficulty, be resisted. The organ is very small in the cast of Mrs. H., and she manifested much unsteadiness of purpose.

The figures introduced on p. 281, represent this organ large and small.

I am not aware that the metaphysicians admit any faculty corresponding to this sentiment. It exercises a great influence in forming the character, and its omission is very important in any system of mental philosophy.

The effects of disease of the organ seem not to have been observed. We may infer, that they will be the exaltation of the function, namely, extreme stubbornness and infatuation.

This organ is regarded as established.

16.—CONSCIENTIOUSNESS.

THIS organ is situated on the posterior and lateral parts of the coronal region of the brain, upwards from Cautiousness, and backwards from Hope. In Dr. Gall's Plates, the function is marked as unascertained, and the discovery and establishment of the organ are due to Dr. Spurzheim.

The dispute among philosophers about the existence of a moral faculty in the human mind, is of very ancient standing, and it has been conducted with great eagerness since the publication of the writings of Hobbes in the middle of the seventeenth century. This author taught, "that we approve of virtuous actions, or of ctions beneficial to society, from self-love; because we know, hat whatever promotes the interest of society, has, on that very account, an indirect tendency to promote our own." He farther taught, that, "as it is to the institution of government we are indebted for all the comforts and confidence of social life, the laws which the civil magistrate enjoins are the ultimate standards of morality."*

Cudworth, in opposition to Hobbes, endeavored to show that the origin of our notions of right and wrong is to be found in a particular power of the mind, which distinguishes truth from falsehood.

Mandeville, who published in the beginning of the last century, maintained, as his theory of morals, That by nature man is utterly selfish; that among other desires which he likes to gratify, he has received a strong appetite for praise; that the founders of society, availing themselves of this propensity, instituted the custom of dealing out a certain measure of applause for each sacrifice made by selfishness to the public good, and called the sacrifice Virtue. "Men are led, accordingly, to purchase this praise by a fair barter;" and "the moral virtues," to use Mandeville's strong expression, are, "the *political offspring* which *flattery* begot upon *pride*." And hence, when we see *virtue*, we see only the indulgence of some selfish feeling, or the compromise for this indulgence, in expectation of some praise."†

Dr. Clarke, on the other hand, supposes virtue "to consist in the regulation of our conduct, according to certain *fitnesses* which we perceive in things, or a peculiar congruity of certain relations to each other;" and Wollaston, whose views are essentially the same, "supposes virtue to consist in *acting* according to the *truth of things*, in treating objects according to their *real character*, and not according to a character or properties which they truly have not."‡

Mr. Hume, it is well known, wrote an elaborate treatise, to prove, "that utility is the constituent or measure of virtue:" In short, to use the emphatic language of Dr. Smith, "that we have no *other* reason for praising a man, than that for which we commend a chest of drawers."[*]

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* Stewart's Outlines, p. 128.

† Fable of the Bees, vol. i. p. 28-30. 8vo. London, 1728; and Brown's Lectures, vol. iv. p. 4.

‡ Brown's Lectures, vol. iv. p. 17.

There is another system "which makes the *utility* according to which we measure virtue, in every case our own individual advantage. Virtue, according to this system, is the mere search of pleasure, or of personal gratification. It gives up *one* pleasure, indeed, but it gives it up for a *greater*. It sacrifices a present enjoyment; but it sacrifices it only to obtain some enjoyment, which, in intensity and duration, is fairly worth the sacrifice." Hence, in every instance in which an individual seems to pursue the good of others, *as good*, he seeks his own personal gratification, and nothing else.[†]

Dr. Hutcheson, on the other hand, strenuously maintains the existence of a moral sense, on which our perceptions of virtue are founded, independently of all other considerations.

Dr. Paley, the most popular of all authors on moral philosophy, does not admit a natural sentiment of justice as the foundation of virtue, but is also an adherent of the selfish system, under a modified form. He makes virtue consist in "the doing good to mankind, in obedience to the will of God, and *for the sake of everlasting happiness*."[‡] According to this doctrine, "the will of God is our rule, but private happiness our motive," which is just selfishness in another form.

Dr. Adam Smith, in his Theory of Moral Sentiments, endeavors to show, that the standard of moral approbation is *sympathy* on the part of the impartial spectator, with the action and object of the party whose conduct is judged of.

Dr. Reid and Mr. Stewart maintain the existence of a faculty in man, which produces the sentiment of right and wrong, independently of any other consideration.

These disputes are as far from being terminated among metaphysicians at present, as they were a century ago; a late writer on the subject, the Author of the article Moral Philosophy in the Edinburgh Encyclopædia, disputes the existence of a moral sense, and founds virtue upon religion and utility.

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[*] Lib. cit. p. 32. [†] Lib. cit. p. 64. [‡] Lib. cit. vol. iv. p. 100, 101.

I have introduced this sketch of conflicting theories, to convey some idea of the boon which Phrenology would confer upon moral science, if it could fix, on a firm basis, this single point in the philosophy of mind, That a power or faculty exists, the object of which is to produce the sentiment of justice or the feeling of moral duty and obligation, independently of selfishness, hope of reward, fear of punishment or any extrinsic motive; a faculty, in short, the natural language of which is "Fiat justitia, ruat cœlum." Phrenology does this by a demonstration, founded on numerous observations, that those persons who have the organ now under consideration large, experience powerfully the sentiment of justice, while those who have that part small, are little alive to this emotion. This evidence is the same in kind as that adduced in support of the conclusions of physical science.

The faculty produces the feeling of obligation, incumbency, right and wrong, for which we have no single definite expression in the English language; just as Ideality produces the sentiment of Beauty. Justice is the result of this sentiment, acting in combination with the intellectual powers. The latter investigate the motives and consequences of actions; but, after having done so, they, of themselves, experience no emotions. In surveying human conduct, however, as soon as the intellect has thoroughly penetrated into the springs from which it proceeds, a feeling of decided approval or condemnation, distinct from all other sentiments, and from pure intellection, arises in the mind; and this is produced by the faculty of Conscientiousness.

This faculty is of the very highest importance as a regulator of all the others. If Combativeness be too active, Conscientiousness prescribes a limit to its indulgence; it permits defence, but no malicious aggression: if Acquisitiveness urge too keenly, it reminds us of the rights of others: if Benevolence tend towards profusion, this faculty issues the admonition, be just before you are generous: if Ideality aspire to its high delights, when duty requires laborious exertions in a humble sphere, Conscientiousness supplies the curb, and bids the soaring spirit stoop its wing.

Nay, not only does it operate as a curb upon our too active desires, but as a spur to excite the faculties, when too feeble in their energy. If Benevolence be weak, Conscientiousness proclaims, in a voice of authority, that it is our DUTY to relieve the miserable ;—if Acquisitiveness be too feeble to prompt to industry, this sentiment calls aloud on us to labor, that we may do justice to those around us. From this regulating quality Conscientiousness is an important element in constituting a practical judgment and an upright and consistent character.

When this faculty is powerful, the individual is disposed to regulate his conduct by the nicest sentiments of justice : there is an earnestness, integrity, and directness in his manner, which inspire us with confidence, and give us conviction of his sincerity. Such an individual desires to act justly from the love of justice, unbiassed by fear, interest, or any sinister motive.

The activity of this faculty takes a wider range than respect merely to the legal rights and property of others. It prompts those in whom it is strong, to do justice in judging of the conduct, the opinions, and the talents of others. Such persons are scrupulous, and as ready to condemn themselves as to find fault with others. When predominant, it leads to punctuality in keeping appointments, because it is injustice to sacrifice the time and convenience of others, by causing them to wait till our selfishness finds it agreeable to meet them. It prompts to ready payment of debts, as a piece of justice to those to whom they are due. It will not permit even a tax-collector to be sent away unsatisfied, from any cause except inability to pay; because it is injustice to him, as it is to clerks, servants, and all others, to require them to consume their time in unnecessary attendance, for what is justly due and ought at once to be paid. It leads also to great reserve in making promises, but to much punctuality in performing them. It gives consistency to the conduct, because, when every sentiment is regulated by justice, the result is, that " daily beauty in the life" which renders the individual in the highest degree useful and respectable. It communicates a pleasing simplicity to the manners, which commands the esteem, and wins the affections, of all well constituted minds.

A deficiency of this sentiment produces effects exactly opposite The weakness of the faculty appears in the general sentiments of the individual, although circumstances may place him beyond reach of temptation to infringe the law. The predominant propensities and sentiments then act without this powerful regulator. If Benevolence and Adhesiveness attach him to a friend, he is blind to all his imperfections, and extols him as the most matchless of human beings. If he happen to offend, he becomes a monster of ingratitude and baseness; he passes in an instant from an angel to a demon. If Conscientiousness had been large, he would have been viewed all along as a man; esteem towards him would have been regulated by principle, and the offence candidly dealt with. If Love of Approbation be large, and Conscientiousness deficient, the former will prompt to the adoption of every means that will please, without the least regard to justice and propriety. If an individual have a weak point in his character, Love of Approbation will then lead to flattering it; if he have extravagant expectations, it will join in all his anticipations; if he be displeased with particular persons, it will affect to hate with his hate, altogether independent of justice. In short, the individual in whom this faculty is deficient, is apt to act and also to judge of the conduct of others, exactly according to his predominant sentiments for the time: he is friendly when under the impulse of Benevolence; severe when Destructiveness predominates; admires, when his pride, vanity, or affection, give him a favorable feeling towards others; and condemns when his sentiments take an opposite direction, always unregulated by principle. He is not scrupulous, and rarely condemns his own conduct, or acknowledges himself in the wrong. Minds so constituted may be amiable, and may display many excellent qualities; but they are never to be relied on where justice is concerned; as judges, their decisions are unsound; as friends, they are liable to exact too much and perform too little; as sellers, they are prone to misrepresent, adulterate, or overcharge; as buyers, to depreciate quality and quantity, or evade payment.

The laws of honor, as apprehended by some minds, are founded on an absence of Conscientiousness, with great predominance o

Self-Esteem and Love of Approbation. If a gentleman is conscious that he has unjustly given another offence, it is conceived by many that he will degrade himself by making an apology; that it is his duty to fight, but not to acknowledge himself in fault. This is the feeling produced by a powerful Self-Esteem and Love of Approbation, with great deficiency of Conscientiousness. Self-Esteem is mortified by an admission of fallibility, and Love of Approbation gives the feeling that the esteem of the world will be lost by such an acknowledgement; and if no higher sentiment be present, in a sufficient degree, the wretched victim will go to the field and die in support of conduct that is truly indefensible. When Conscientiousness is strong, the possessor feels it no degradation to acknowledge himself in fault, when be is aware that he is wrong; in fact he rises in his own esteem by doing so, and knows that he acquires the respect of the world; while, if fully conscious of being in the right, there is none more inflexible than he.

This sentiment is essential to the formation of a truly philosophic mind, especially in moral investigations. It produces the desire of discovering truth, the tact of recognising it when discovered, and that perfect reliance on its invincible supremacy, which give at once dignity and peace to the mind. A person in whom it is deficient, views all propositions as mere opinions; esteems them exactly as they are fashionable or the reverse, and cares nothing about the evidence on which they rest. Love of Approbation and Secretiveness, joined with this sentiment deficient, lead to paradox; and if Combativeness be added, there will be a tendency to general skepticism, and the denial or disputation of the best-established truths on every serious subject.

No sentiment is more incomprehensible to those in whom the organ is small, than Conscientiousness. They are able to understand conduct, proceeding from ambition, self-interest, revenge, or any other motive; but that determination of soul, which suffers obloquy and reproach, nay death itself, from the pure and disinterested love of truth, is to them utterly unintelligible. They regard it as a species of insanity, and look on the individual as "essentially mad, without knowing it." Madame De Stael narrates of Bonaparte, that he never was so completely at fault, in his estimate of character, as when he met with opposition from a person actuated by the pure principle of integrity alone. He did not comprehend the motives of such a man, and could not imagine how he might be managed. The maxim, that "every man has his price," will pass as profoundly discriminative with those in whom Acquisitiveness or Love of Approbation is very large, and Conscientiousness moderate; but there are minds whose deviation from the paths of rectitude no price could purchase, and no honors procure; and those in whom Conscientiousness, Firmness, and Reflection, are large, will give an instinctive assent to the truth of this proposition.

I have observed that individuals, in whom Love of Approbation was large, and Conscientiousness not in equal proportion, were incapable of conceiving the motive which could lead any one to avow a belief in Phrenology, while the tide of ridicule ran unstemmed against it. If the public opinion should change, such persons would move foremost in the train of its admirers: They instinctively follow the doctrines that are most esteemed from day to day; and require our pity and forbearance, as their conduct proceeds from a great moral deficiency, which is their misfortune rather than their fault. The fact that this organ is occasionally deficient in individuals in whom the organs of intellect are amply developed, and the animal propensities strong, accounts for the unprincipled baseness and moral depravity exhibited by some men of unquestionable talents.

It is here, as in other cases, of the greatest importance to attend to the distinct functions of the several faculties of the mind No mistake is more generally committed than that of conceiving, that, by exercising the faculty of Veneration, we cultivate those of Benevolence and Justice; but if Veneration be large, and Conscientiousness small, a man may be naturally disposed to piety and not to justice; or if the combination be reversed, he may be just and not pious, in the same manner as he may be blind and not deaf, or deaf and not blind. Deficiency of Veneration does not necessarily imply profanity; so that, although an individual will scarcely be found who is profane and at the same time just, yet many will be found who are just and not pious, and *vice versa*.

This faculty, when powerful, is attended with a sentiment of its own paramount authority over every other, and it gives its impulses with a tone which appears like the voice of Heaven. The scene in "The Heart of Mid-Lothian," in which Jeany Deans is represented giving evidence on her sister's trial at the bar of the High Court of Justiciary, affords a striking illustration of its functions and authority when supported by piety. A strong sense of the imperious dictates of Conscientiousness, and of the supreme obligation of truth, leads her to sacrifice every interest and affection which could make the mind swerve from the paths of duty; and we perceive her holding by her integrity, at the expense of every other feeling dear to human nature.

Repentance, remorse, a sense of guilt, and demerit, are the consequences of this faculty, when the actions have been in opposition to its dictates. It is a mistake, however, to suppose, that great criminals are punished by the accusations of conscience; for this organ is generally very deficient in men who have devoted their lives to crime, and, in consequence, they are strangers to the sentiment of remorse. Haggart felt regret for having murdered the jailor of Dumfries, but no remorse for his thefts. His large Benevolence induced the uneasy feeling on account of the first crime, and his small Conscientiousness was the cause of his indifference to the second. If Conscientiousness had been strong, he could not have endured the sense of the accumulated iniquities with which his life was stained. In Bellingham, both Benevolence and Conscientiousness are small, and he manifested equal insensibility to justice and mercy, and testified no repentance or remorse.

Dr. Gall did not admit a faculty and organ of Conscientiousness. He formerly considered remorse as the result of the opposition of particular actions to the predominant dispositions of the individual; and, according to him, there were as many consciences as faculties: for example, if a person, in whom Benevolence was large, injured another, this faculty would be grieved; and this feeling he considered to be regret or repentance. If a usurer and a libertine neglected an opportunity, they would repent, the first for not having gratified Acquisitiveness, the latter for not having seduced some innocent victim. Dr. Gall called this *natural conscience*, and said, that we could not trust to it; and hence, that laws and positive institutions became necessary. Dr. Spurzheim answered this argument in an able manner, and showed that the mere feeling of regret is totally different from that of remorse. We may regret that we lost a pair of gloves, or spent half-a-crown; but this feeling bears no resemblance to the upbraidings of conscience for having robbed a neighbor of his right, committed a fraud, or uttered a malevolent falsehood. Dr. Gall latterly regarded Benevolence as the moral faculty: but the sentiment of right and wrong is as clearly distinguishable from mere goodness or kindness, as Hope is from Fear; and, besides, positive facts prove that the two feelings depend on different organs.

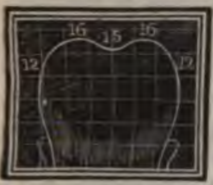
This organ deficient, and Secretiveness large, and especially when the latter is aided by Ideality and Wonder, produce a natural tendency to lying, which some individuals, who have possessed the advantages of education and good society, have never been able to overcome.

Some criminals, on being detected, confess, and seem to court punishment, as the only means of assuaging the remorse with which their own minds are devoured. The Phrenological Society has a cast of the skull of one person who displayed this desire to atone for his crime. It is that of John Rotherham, who met a servant girl on the highway and murdered her, out of the pure wanton impulse of Destructiveness; for he did not attempt to violate her person; and of her property, he took only her umbrella and shoes. When apprehended, he confessed his crime,—insisted on pleading guilty,—and, with great difficulty, was induced by the judge to retract his admission. The organ is large in him. He appears to have acted under an excessive influence of Destructiveness.

James Gordon, on the contrary, who murdered the pedlar boy in Eskdale Muir, stoutly denied his guilt, and, after conviction, abused the jury and judge for condemning him. Before his execu tion, he admitted that his sentence was just. In him, the organ of Conscientiousness is defective.

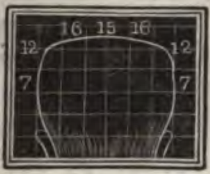
The organ is very large in Mrs. H., the Rev. Mr. M., and in Dr. Hette, who all manifested the sentiment powerfully. Considerable attention is requisite to discriminate accurately the size of this organ. When Firmness is large, and Conscientiousness small, the head slopes at an acute angle downwards from Firmness, as in *Haggart* and King Robert Bruce. When both Firmness and Conscientiousness are large, the head rises considerably from Cautiousness to Firmness, by a full and rounded swell, as in the Rev. Mr. M. When both of these organs are small, the head rises very little above Cautiousness, but runs flat across to Cautiousness on the other side, as in the boy Gibson, and in Mary Street, a child distinguished like him for lying and deceit. The figures illustrate these combinations.

MRS. H.



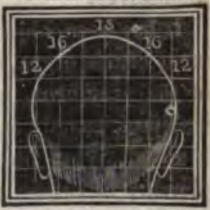
Firmness small, Conscientiousness large.

JOHN GIBSON.



Firmness and Conscientiousness deficient.

DAVID HAGGART.



Firmness large, Conscientiousness deficient.

In Mrs. H., Firmness 15 is small, and Conscientiousness 16 large; in D. Haggart, Firmness 15 is large, and Conscientiousness 16 deficient; and in John Gibson both of these organs are deficient, which is indicated by the head rising very little above 12 Cautiousness. If in Mrs. H., Firmness had been as large as Conscientiousness; or in Haggart, Conscientiousness had been as large as Firmness, the heads would have presented a full and elevated segment of a circle passing from Cautiousness to Cautiousness, the very opposite of the flat and low line in the head of Gibson. It is of great importance in practice to attend to these different forms.

The *difference of developement* of this organ in different nations and individuals, and its combinations with other organs, enable us to account for the differences in the notions of justice entertained at different times, and by different people. The sentiment of Truth is found by the English Judges to be so low in the Africans, the Hindoos, and in the aboriginal Americans, that the natives of these countries are not received as witnesses in the Colonial Courts; and it is a curious fact, that a defect in the organ of Conscientiousness is a reigning feature in the skulls of these nations, in possession of the Phrenological Society. The notions of justice of that individual are most fit to be assumed as a standard, in whom this organ is decidedly large, in combination with a large endowment of the other moral sentiments and reflection; just as we hold the person possessed of the greatest organ of Tune, in combination with the organs of the moral sentiments and reflection, to be the best judge of musical compositions. It is obvious, also, that laws, or positive commands, ordering and forbidding certain actions, become necessary as rules, to those who do not possess a sufficient endowment of this sentiment from nature to regulate their conduct. Those who are favorably gifted, are, in the language of St. Paul, "a law unto themselves."

It has been objected, that persons possessing a large developement of this organ, not unfrequently act in opposition to the dictates of the sentiment, and practise selfishness, or sacrifice justice to ambition, exactly as those do in whom the organ is small; and it is asked, What becomes of the organ in such instances? The plurality of organs and faculties explains this phenomenon. Conscientiousness is not the only faculty in the mind, and, although it is paramount in authority, it is not always so in strength. A person in whom Benevolence and Destructiveness are both large, may, under special circumstances, which strongly excite Destructiveness, manifest that faculty in rage, revenge, or undue severity, in direct opposition to Benevolence. In like manner, an individual in whom Acquisitiveness and Self-Esteem are large, may, if these are very forcibly addressed, obey their impulse in opposition to that of Conscientiousness; but the benevolent man, when the temptation is past, feels the opposition between his conduct and the dictates of Benevolence; and, in like manner, the individual last supposed, on cool reflection, becomes conscious of the opposition betwixt his unjust preference of himself, and the dictates of Conscientiousness; both will repent, and will make atonement, and desire to avoid repetition of such errors. If Benevolence and Conscientiousness had been small, they would not have felt that their actions were wrong; they would have experienced no remorse; and their lower faculties would have operated with greatly increased violence. I have observed practically, that when Conscientiousness is large in any individual, he will yield compliance with demands made on him whenever a strong case in justice is made out by the applicant; but when the organ is not large, he will be moved only by favor or partiality. It is of the utmost importance to the respectability of Government, and the welfare of the people, that public functionaries should possess the former character. The necessity of it in persons in authority will be more and more felt as society advances in knowledge, discrimination, and morality.

Another difficulty is experienced in the doctrine, that Conscientiousness is merely a sentiment, and does not form specific ideas of what is just. This will be best removed by an example: A judge hears one side of a cause, and Conscientiousness, acting on the statement presented to it, through the medium of the intellect, produces the feeling that this first party is in the right. The other litigant is next heard, new facts appear, and Conscientiousness may now produce the feeling that justice lies on his side. If this faculty itself had formed specific ideas of what is just, it would have been an intellectual power, and reasoning would have been in proportion to it, which is not the case; but, as it is only a sentiment, its real function is to produce an emotion of justice or injustice, on the particular case or assemblage of facts presented to it by the intellect. An illustration of this doctrine is found in the "Hermit" by Parnell. The angel throws the servant over the bridge; and this is felt to be unjust, while nothing more is known than the result; but when the intellect is afterwards informed, that he intended next night to murder his master, Conscientiousness feels that his destruction by the angel was just. This is not Conscientiousness giving opposite decisions on the same case; but the intellect presenting different cases, or different views of the same case, and individual, in whom this organ is predominantly large, mentioned to me, that no circumstance in philosophy occasioned to him greater surprise, than the denial of the existence of a moral faculty; and that the attempts to prove it appeared to him like endeavors to prop up, by demonstration, a self-evident axiom in mathematical science.

The organ is regarded as established.

17.—HOPE.

This organ is situated on each side of that of Veneration, and extends under part of the frontal and part of the parietal bones. It cannot be brought into outline in a drawing, and on this account no figure is given.

Dr. Gall considered Hope as belonging to every faculty; but Dr. Spurzheim very properly observes, that although every faculty being active produces *desire*, as Acquisitiveness the desire for property, and Love of Approbation the desire for praise; yet this is very different from Hope, which is a simple emotion, *sui generis*, susceptible of being directed in a great variety of ways, but not desiring any one class of things as its peculiar objects. Nay, desire is sometimes strong, when Hope is feeble or extinct; a criminal on the scaffold may ardently desire to live, when he has no hope of escaping death. Dr. Spurzheim was convinced, by analysis, that Hope is a distinct primitive sentiment; and was led to expect that an organ for it would exist. Numerous observations have since determined the situation of the organ, on the sides of Veneration; and it is now admitted by phrenologists in general as established. Dr. Gall, however, continued till his death to mark the functions of this part of the brain as unascertained.

The faculty produces the sentiment of Hope in general, or the tendency to believe in the possibility of what the other faculties desire, but without giving the conviction of it, which depends on Reflection. Thus a person with much Hope and much Acquisitiveness, will hope to become rich; another, with much Hope and great Love of Approbation, will hope to rise to eminence; and a third, with much Hope and great Veneration, will hope to be saved, and to enjoy eternal felicity in heaven. It inspires with gay, fascinating and delightful emotions; painting futurity fair and smiling as the regions of primitive bliss. It invests every distant prospect with hues of enchanting brilliancy, while Cautiousness hangs clouds and mists over distant objects seen by the mind's eye. Hence he who has Hope more powerful than Cautiousness, lives in the enjoyment of brilliant anticipations, which are never realized; while he who has Cautiousness more powerful than Hope, habitually labors under the painful apprehension of evils which rarely exist, except in his own internal feelings. The former also enjoys the present, without being annoyed by fears about the future, for Hope supplies his futurity with every object which his fancy desires, quite undisturbed by the distance of attainment; the latter, on the other hand, cannot enjoy the pleasures within his reach, through fear that, at some future time, they may be lost. The life of such an individual is spent in painful apprehension of evils, to which he is in fact very little exposed; for the dread of their happening excites him to ward them off by so many precautions that it is scarcely possible they can overtake him.

When too energetic and predominant, this faculty disposes to credulity, and, in mercantile men, leads to rash and inconsiderate speculations. Persons so endowed never see their own situation in its true light, but are prompted by extravagant Hope to magnify tenfold every advantage, while they are blind to every obstacle and abatement. They promise largely, but rarely perform. Intentional guile, however, is frequently not their object; they are deceived themselves by their constitutional tendency to believe every thing possible that is future, and promise in the spirit of this credulity. Those who perceive the disposition in them, ought to exercise their own judgment on the possibility of performance, and make the necessary abatement in their expectations. Experience accomplishes little in correcting those who possess too large an organ of Hope; the tendency to expect immoderately being constitutional, they have it not in their power to see both sides of the prospect, and, beholding only that which is fair, they are necessarily led to conclude that all is well. When the organ is very deficient, and that of Cautiousness large, a gloomy despondency is apt to invade the mind; and if Destructiveness be large, the individual may resort to suicide to escape from wo.

The faculty, if not combined with much Acquisitiveness or Love of Approbation, disposes to indolence, from the very promise which it holds out of the future providing for itself. If, on the other hand, it be combined with these organs in a full degree, it acts as a spur to the mind, by uniformly representing the object desired as attainable. An individual with much Acquisitiveness, great Cautiousness, and *little Hope*, will *save* to become rich; another with the same Acquisitiveness, little Cautiousness, and *much Hope*, will *speculate* to procure wealth. I have found Hope and Acquisitiveness large in persons addicted to gaming.

Hope has a great effect in assuaging the fear of death. I have seen persons in whom it was very large die by inches, and linger for months on the brink of the grave, without suspicion of the fate impending over them. They *hoped* to be well, till death extinguished the last ember of the feeling. On the other hand, when Hope, and Combativeness, which gives courage, are small, and Cautiousness and Conscientiousness large, the strongest assurances of the Gospel are not always sufficient to enable the individual to look with composure or confidence on the prospect of a judgment to come. Several persons in whom this combination occurs, have told me that they lived in a state of habitual uneasiness in looking forward to the hour of death; while others, with a large Hope and small Cautiousness, have said that such a ground of alarm never once entered their imaginations. Our hopes or fears on a point of such importance as our condition in a future state, ought to be founded on grounds more stable than mere constitutional feeling; but I mention these cases to draw attention to the fact, that this cause sometimes tinges the whole conclusions of the judgment; and the existence of such a source of delusion being known, its effects may more easily be resisted.

In religion, this faculty favors the exercise of faith; and by producing the natural tendency to look forward to futurity with expectation, disposes to belief in a life to come.

The metaphysicians admit this faculty, so that Phrenology only reveals its organ, and the effects of its endowment, in different degrees. I have already stated an argument in favor of the Being of a God, founded on the existence of a faculty of Veneration conferring the tendency to worship, of which God is the proper and ultimate object. May not the probability of a future state be supported by a similar deduction from the possession of a faculty of Hope? It appears to me that this is the faculty from which originates the notion of futurity, and which carries the mind forward in endless progression into periods of everlasting time. May it not be inferred, that this instinctive tendency to leave the present scene, and all its enjoyments, to spring forward into the regions of a far distant futurity, and to expatiate, even in imagination, in the fields of an eternity to come, denotes that man is formed for a more glorious destiny than to perish for ever in the grave? Addison beautifully enforces this argument in the Spectator, and in the soliloquy of Cato; and Phrenology gives weight to his reasoning, by showing that this ardent Hope, "this longing after immortality," is not a factitious sentiment, or a mere exuberance of an idle and wandering imagination, but that it is the result of a primitive faculty of the mind, which owes at once its existence and its functions to the Creator.

Pope beautifully describes the influence of the sentiment of Veneration, in prompting us to worship, blindly indeed, when undirected by information superior to its own. He falls also into the idea now started in regard to Hope, and represents it as the source of that expectation of a future state of existence, which seems to be the joy and delight of human nature, in whatever stage of improvement it has been found.

> "Lo! the poor Indian whose untutored mind
> Sees God in clouds, or hears him in the wind;
> His soul proud science never taught to stray
> Far as the solar walk, or milky way;

say his biographers, "was a man of unquestionable sincerity, but one of the most extravagant enthusiasts that ever existed."*

Dr. Gall remarked, in the first fanatic who fell under his observation, a large developement of the part of the brain lying between the organs of Ideality and Imitation, and subsequently met with many similar instances. Dr. Jung Stilling, says he, whom he often saw with the late Grand Duke of Baden, was a tailor in his youth, then a tutor, afterwards doctor in medicine, moralist, divine, journalist, illuminatus, and visionary; and in him this part of the brain was largely developed. He believed firmly in apparitions, and wrote a book in exposition of this doctrine. In the *Maison de Detention* at Berne, Dr. Gall saw a fanatic, who believed that JESUS CHRIST, surrounded by a brilliant light, as if a million of suns had combined their splendors, had appeared to him to reveal the true religion. A gentleman, who moves in the best society in Paris, asked Dr. Gall to examine his head. The Doctor's first remark was, "You sometimes see visions, and believe in apparitions." The gentleman started from his chair in astonishment, and said, that he *had* frequent visions; but never, up to this moment, had he spoken on the subject to any human being, through fear of being set down for being absurdly credulous. On another occasion, Dr. Gall, when he observed the developement of the head of Dr. W., said, that he ought to have a strong liking for the marvellous and supernatural. "For once," replied he, "you are completely mistaken, for I have laid down the rule to believe in nothing which cannot be mathematically demonstrated." After talking with him on various scientific subjects, Dr. Gall turned the conversation towards animal magnetism, which appeared a fit topic to put the mathematical rigor of his proofs to the test. He instantly became greatly animated, assured Dr. Gall again very solemnly, that he admitted nothing as true that was not mathematically demonstrated; but added, he was convinced that a spiritual being acted in magnetism; that it operated at great distances; that no distance indeed presented an obstacle to its action, and that, on this account, it could sympathize with persons in any part of the world. "It is the same cause," continued he, "which produces apparitions. Apparitions and visions are rare, no doubt, but they undoubtedly exist, and I am acquainted with the laws which regulate their production." "On this occasion," says Dr. Gall, "I thought within myself, that my inference from his developement was not so very erroneous as the worthy Doctor wished me to believe."

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* Lib. cit. p. 342.

A man named Halleran, of Vienna, imagined himself continually accompanied by a familiar spirit; he saw the spirit, and conversed with it. When he reached his sixtieth year, his genius appeared as if he wished to leave him, and only on certain days in the month was he favored with his presence. At Gersbach, near Durlach, in the Grand Dutchy of Baden, Dr. Gall knew a curate who was confined because he conceived himself to have a familiar spirit. At Manheim there was a man who saw himself continually attended by several spirits: Sometimes they marched at his side, in visible forms; at other times they attended him underground. In these persons Dr. Gall found the part of the brain in question largely developed. He states as questions for consideration, "Does this convolution form part of the organ of Imitation? and, Does its extreme developement exalt the talent for mimicry, to such a degree as to personify simple ideas, and to give them, thus metamorphosed, a locality, out of the individual? or, Does it constitute parts both of Ideality and Imitation? or, finally, Does it constitute a separate organ? These points can be determined only by farther researches."[†]

Sir Walter Scott observes, that "no man ever succeeded in imposing himself on the public as a supernatural personage, who was not to a certain degree the dupe of his own imposture."[†]

Dr. Gall mentions, that the organ appears large in the busts of Socrates, Joan of Arc, Cromwell, Swedenborg, and other individuals by whom the tendency before described has been manifested.

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[*] Sur les Fonctions du Cerveau, tome v. p. 346.

[†] Life of Napoleon Bonaparte, vol. iv. p. 88.

> Yet simple nature to his *hope* has given,
> Behind the cloud-topt hill, an humbler heaven;
> Some safer world, in depth of woods embraced·
> Some happier island in the watery waste;
> Where slaves once more their native land behold,
> No fiends torment, no Christians thirst for gold."

The organ is established.

18.—WONDER.

This organ is situated immediately above Ideality.

Dr. Gall observed, that some individuals imagine themselves to be visited by apparitions of persons dead or absent; and he asks, How does it happen, that men of considerable intellect often believe in the reality of ghosts and visions? Are they fools, or impostors? or, Is there a particular organization, which imposes, in this form, on the human understanding? and, How are such illusions to be explained? He then enters into a historical sketch of the most remarkable instances of visions. Socrates spoke frequently and willingly to his disciples of a demon or spirit, which served him as a guide. Dr. Gall remarks, that he is quite aware of the common explanation, that Socrates referred only to the force and justness of his own understanding; but adds, that if he had not himself believed in a genius communicating with him, the opinion that he had one would have been lost in the twenty-three years, during which Aristophanes had made it a subject of ridicule, and his accusers would not have revived it as a charge against him. Joan of Arc also related an appearance of St. Michael to her, who told her that God had pity on France, and that she was commissioned to raise the siege of Orleans, and to install Charles VII. as King, at Rheims. Tasso asserted himself to have been cured by the aid of the Virgin Mary, and St. Scholastic, who appeared to him during a violent attack of fever. In the historical notes which accompany the Life of Tasso, the following anecdote appears, extracted from the Memoirs of Manso, Marquis of Villa, published after the death of Tasso, his friend.

"Tasso, in his delirium, believed that he conversed with familiar spirits. One day, when the Marquis endeavored to drive these ideas from his mind, Tasso said to him, 'Since I cannot convince you by reason, I shall do so by experience; I shall cause the spirit, in which you refuse to believe, to appear to your own eyes.' I accepted the offer," says the Marquis, "and next day, when we sat by the fire conversing, he turned his eyes towards the window; and looking with steadfast attention, appeared so completely absorbed, that when I called to him, he did not answer. 'See!' said he, at length, 'See! my familiar spirit comes to converse with me.' I looked with the greatest earnestness, but could see nothing enter the apartment. In the meantime, Tasso began to converse with this mysterious Being. I saw and heard himself alone. Sometimes he questioned, and sometimes answered; and from his answers, I gathered the sense of what he had heard. The subject of his discourse was so elevated, and the expressions so sublime, that I felt myself in a kind of ecstasy. I did not venture to interrupt him, nor to trouble him with questions, and a considerable time elapsed before the spirit disappeared. I was informed of its departure by Tasso, who, turning towards me, said, 'In future you will cease to doubt.' 'Rather,' said I, 'I shall be more skeptical, for although I have heard astonishing words, I have seen nothing.' Smiling, he replied, 'You have perhaps heard or seen more than—' He stopped short; and, fearing to importune him by my questions, I dropped the conversation."* Dr. Gall quotes this dialogue from "La Vie du Tasso, publiée à Londres en 1810;" and I have translated from Dr. Gall's citation.†

Swedenborg believed himself miraculously called to reveal to the world the most hidden mysteries. "In 1743," says he, "it pleased the Lord to manifest himself to me, and appear personally before me, to give me a knowledge of the spiritual world, and to place me in communication with angels and spirits, and this power has been continued with me till the present day." "Swedenborg," is regarded as even beautiful, when first introduced, but that it appears ridiculous and antiquated, after it has been superseded by a newer fashion. Probably one cause of this feeling may be found in the faculty now under consideration; and the agreeable impressions made on it by new objects, may be one source of the gratification which a change of fashion affords. Love of Approbation unquestionably prompts multitudes to *follow* the fashion, without much relish for novelty itself; but some individuals must take the lead, and there must be some principle in the mind to be gratified by mere change, which excites them to do so; and Wonder may contribute to this effect. Indeed, as every faculty has a useful and legitimate sphere of action, I am disposed to infer, that the legitimate tendency of this sentiment is to inspire the mind with a longing after novelty in every thing, and that its proper effect is to stimulate to invention and improvement. Fashion is not a real element of beauty in external objects; and to persons who possess a good endowment of Form, Constructiveness and Ideality, intrinsic elegance is much more pleasing and permanently agreeable, than forms of less merit, recommended merely by being new. Hence there is a beauty which never palls, and there are objects over which fashion exercises no control. A Chinese teapot may be rendered agreeable, by being fashionable, but will look ugly when the mode changes; while a vase of exquisite form will please in all countries and in all ages. The teapot I conceive to owe its attractions to the impression which its novelty makes on the faculty of Wonder; but when this has ceased, it is judged of by its proper qualities, and condemned, from the inelegant proportions being then criticised by the eye of taste; while the vase, by gratifying the faculties which take cognizance of intrinsic beauty, continues always to please. This view is strengthened by the fact, that the greatest votaries of fashion have frequently execrably bad taste; a result perfectly accordant with the supposition, that the mere love of novelty is the chief element in this disposition.

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* Sur les Fonctions du Cerveau, tome v. p. 341.

† For the original, see Rev. Mr. Black's Life of Tasso, vol. ii. p. 240.

The French in general possess a considerable developement of the organs of Ideality, Wonder, and Love of Approbation; and they have long been celebrated as leaders of fashion. Their ordinary discourse, also, is replete with terms of admiration and approbation, which to Englishmen appear excessive. Every object is "*superbe*," "*magnifique;*" and the terms ***bon***, ***beau***, ***excellent***, express such faint praise as almost to imply disapprobation.

Captain Ross, R. N. mentioned to me, that young men, born and bred up in inland situations, who enter the Navy voluntarily, generally possess a large developement of this organ, the gratification of which, he inferred, incites them to choose the sea as a profession.

According to this view, Wonder may aid genius, by prompting to novelty in all the conceptions of the mind. Dr. Samuel Johnson is strongly suspected of having believed in ghosts and apparitions, which indicates an excessive endowment of this faculty; and his style is full of new words and unusual forms of expression, to which he was probably led by the same feeling. Dr. Chalmers also shows a strong tendency to coin new vocables, and occasionally to give strange turns to his discourse ; which perhaps originates from Wonder acting with Comparison, as his brilliancy and elevation spring chiefly from Ideality. Mr. Tennant, the author of Anster Fair, and Mr. Hazlitt, show some degree of the same disposition in their writings ; and I have observed the organ full in both of their heads. The faculty prompts, as Dr. Spurzheim remarks, to the use of machinery in poetry, and to the introduction of supernatural agency. In the portraits of Shakspeare, and the busts of Sir Walter Scott, it is large. The following lines of the poet Akenside finely delineate the manifestations of the sentiment of Wonder:—

> " Witness the sprightly joy, when aught unknown
> Strikes the quick sense, and wakes each active power
> To brisker measures. Witness the neglect
> Of all familiar prospects, though beheld
> With transports once ;—the fond attentive gaze
> Of young astonishment ;—the sober zeal
> Of age commenting on prodigious things,—
> For such the bounteous providence of Heaven,
> In every breast implanting the desire
> Of objects new and strange, to urge us on
> With unremitted labor to pursue

Those sacred stores, that wait the ripening soul
In truth's exhaustless bosom. What need words
To paint its power? For this the daring youth
Breaks from his weeping mother's anxious arms,
In foreign climes to rove: the pensive sage,
Heedless of sleep, or midnight's harmful damp,
Hangs o'er the sickly taper; and, untired,
The virgin follows, with enchanted step,
The mazes of some wild and wondrous tale
From morn to eve. Hence, finally, by night,
The village matron, round the blazing hearth,
Suspends the infant audience with her tales,
Breathing astonishment! Of witching rhymes,
And evil spirits; of the death-bed call
Of him who robbed the widow, and devoured
The orphan's portion; of unquiet souls
Risen from the grave to ease the heavy guilt
Of deeds in life concealed; of shapes that walk
At dead of night, and clank their chains, and wave
The torch of hell around the murderer's bed.
At every solemn pause, the crowd recoil
Gazing each other speechless, and congealed
With shivering sighs; till, eager for the event,
Around the beldame all erect they hang,
Each trembling heart with grateful terrors quelled."

Dr. Spurzheim concludes his account of this faculty with the following remarks. "The preceding facts," says he, "determined me formerly to designate this feeling by the name of Supernaturality; and it is certain that it is *principally manifested by a belief in miraculous and supernatural circumstances*, in the foundation of religion by supernatural means, and in its dogmatical points. As, however, the feeling may be applied both to natural and supernatural events, and in every case fills the mind with amazement and surprise, I do not hesitate to change the name of Supernaturality into that of *Marvellousness.* This name I prefer to that of *Wonder*, adopted by Mr. Combe, because, according to Dr. Johnson's Dictionary, *wonder* is applicable only to surprise excited by natural objects, whilst *marvellousness* embraces both kinds of astonishment caused by natural and supernatural circumstances."

When Dr. Spurzheim observes, in the foregoing passage, that this faculty is "*principally* manifested by a belief in miraculous and supernatural circumstances," I do not understand him to mean that this belief is its *legitimate function*. The period when Divine Power manifested itself by extraordinary means was brief, and is long since past; and philosophy cannot acknowledge any object or event that occurs in the present day as miraculous or supernatural; a special faculty, therefore, for belief in such objects appears inadmissible. The fact, however, mentioned by Dr. Spurzheim, that persons in whom this organ is large have a natural disposition to believe in the wonderful and miraculous is certain. Some individuals, so endowed, have informed me, that when any marvellous circumstance is communicated to them, the tendency of their minds is to believe it *without examination*; and that an effort of philosophy is necessary to *resist* the belief, instead of evidence being requisite to produce it. This tendency appears to me to arise from too great energy in this faculty, not directed by reflection; but it is not inconsistent with the idea, that the primary sentiment is that of Wonder. Every propensity and sentiment desires objects suited to afford it gratification; Acquisitiveness longs for wealth, Love of Approbation for praise; and, in like manner, Wonder will ardently desire the marvellous. Individuals, therefore, in whom the organ is large, will delight in extraordinary narratives, and the pleasure felt in them will render the intellect little prone to a severe scrutiny of their truth; hence the tendency to believe in such communications is easily accounted for. Still, however, this longing for the marvellous appears to be an abuse of the sentiment. Philosophy does not recognise the "supernatural," while it admits surprise at new and extraordinary circumstances as a legitimate state of mind. With the greatest deference to Dr. Spurzheim, therefore, Wonder appears to me to be the more correct name for this faculty; and in this analysis I am supported by the authority of the metaphysicians.

This organ, in a state of exaltation, is the great fountain of fanaticism in religion. When largely developed, it is liable to energetic activity, from its mere physical size, and the impressions which it then excites are mistaken by persons ignorant of its nature for direct communications from heaven, and reason is contemned.

It is then also liable to be vividly called into action by external communications of a marvellous and fanatical character, and hence the wildest dogmatist pretending to superior illumination, finds no difficulty in drawing after him a crowd of devoted admirers.

Dr. Adam Smith, in the History of Astronomy,* calls Wonder a sentiment, and attempts to distinguish it from surprise. "We *wonder*," he says, "at all extreme and uncommon objects; at all the rarer phenomena of nature; at meteors, comets, eclipses; at singular plants and animals; and at every thing, in short, with which we have before been either little, or not at all acquainted; and we still wonder, though forewarned of what we are to see."

"We are *surprised*," he continues, "at those things which we have seen *often*, but which we least of all expected to meet with in the place where we find them; we are surprised at the sudden appearance of a friend, whom we have seen a thousand times, but whom we did not imagine we were to see there."

Dr. Thomas Brown † also admits Wonder as a primitive emotion, and contends with success, that surprise and wonder are intrinsically the same feeling, only excited by different objects or occurrences. We wonder at the comet, from its novelty; we are surprised to meet a friend in Edinburgh, whom we believed to be in London; but it is the novel and unexpected *situation* in which we meet him, that causes the surprise, and not his appearance itself.

Dr. Brown ‡ somewhat strangely observes, that "it seems most probable that the feeling of *wonder*, which now attends any striking event that is unexpected by us, would *not* arise in the infant mind on the occurrence of events, all of which might be regarded as equally new to it; since *wonder* implies, not the mere feeling of *novelty*, but the knowledge of some *other circumstances*, which were expected to occur, and is, therefore, I conceive, inconsistent with *absolute ignorance*." The facts which we daily observe prove the very opposite of this doctrine. The organ of Wonder existing, every *new* object excites it, and calls forth the emotion; and hence the greater the ignorance, the more frequent and more intense the astonishment, for then *every* occurrence is novel.

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* Page 2.

† Vol. iii. p. 59.

‡ Vol. iii. p 55.

Dr. Brown[*] observes more justly, that "we may be struck at the same time with the beauty or grandeur of a new object, and our mixed emotion of the novelty and beauty combined, will obtain the name of *admiration*."

Mr. Stewart and Dr. Reid do not treat of this emotion.

The subject of visions is still attended with considerable difficulty. I have met with cases similar to those recorded by Drs. Gall and Spurzheim. In London Bedlam, I examined the head of a patient whose insanity consisted in seeing phantoms, and being led to act as if they were realities; although, as he himself stated, he was convinced by his understanding at the very time, that they were mere illusions; but could not regulate his conduct by this conviction. In him the organ of Form was well developed, and that of Wonder was decidedly large. When asked whether he experienced any sensation in the head when afflicted with visions, he pointed to the spot on each side where the organ of Wonder is situated, and said that he felt an uneasy sensation there.

In the Richmond Lunatic Asylum in Dublin, I saw several patients in whom this organ predominates, and whose insanity consisted in believing themselves to be supernatural Beings, or inspired. See *Phrenological Journal*, vol. vi. p. 81. 84.

I have also seen a person in the west of Scotland, who is liable to spectral illusions. He is thirty-eight years of age, in sound health, remarkably intelligent, and by no means liable to extravagance either in his sentiments or ideas. He mentioned that there is almost constantly present to his mind the appearance of a carpet in motion, and spotted with figures. On visiting Glasgow, he saw a large log of wood, mounted on two axles and four wheels, passing along the street; and on returning home, the apparition of the timber and its vehicle, with the horses, driver, &c. stood before him in the dimensions and hues of actual existence. On another occasion, he saw a funeral pass by the bottom of Queen Street, Glasgow; and for some time afterwards, whenever he shut his eyes or was in darkness, the procession moved before his mind, as distinctly as it had previously done before his eyes. These are merely a few instances, out of many, of objects and beings whom he has seen reappearing to his fancy. He is not conscious of the appearance of the phantom of any object which he has not previously seen; and he is rarely, or almost never, troubled with these visions, when actual existences are before his eyes in broad light; but at all times they appear to a greater or less extent when his eyes are shut, or darkness prevails. His head is in general well formed; the different organs, with the exception of the organ of *Wonder* (which is decidedly large, and which seems to be the origin of this affection), are fairly proportioned; the Knowing Organs preponderating a little over the Reflecting.

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[*] Vol. iii. p. 57.

He mentioned, that this peculiarity has descended to his son. Lately, the boy made up to what he conceived to be a beggarman, and endeavored to speak to him. The figure retired; and the boy followed, till it disappeared at a high wall, seeming to glide into it. The boy ran up to the wall, and groped it with his hands, when he discovered that the beggar was a spectral illusion. I had not an opportunity of examining the head of the son; but the father stated, that, in other respects, there was no peculiarity about his mental constitution.

This tendency of mind, occurring in remote and secluded districts of the Highlands, has probably given rise to the *second sight*. The individual above described, if placed in a situation where his chieftain, his clansmen, their dogs and their flocks, were almost the only animated objects presented to his eyes, would have been visited with frequent spectral appearances of them. If, after the occurrence of such apparitions, the chief had been killed, or the clansmen drowned, or their flocks buried in the snow, the coincidence would have been marked, and the event held to have been predicted by an exercise of the second sight. Where nothing followed the spectres, nothing would be said of their appearance, just as happens in the case of dreams. A correspondent of the Phrenological Society,* gives an account of a Highland gentleman, who believed that an apparition of the second sight had occurred to himself; and he states, that, in his head, the organ of Wonder is large.

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* No. vii. p. 362.

At the same time, it is difficult to comprehend, how an exalted state of this organ should produce these effects, unless we suppose it to excite the organs of Form, Coloring, &c. to activity, so as to conjure up illusions fitted for the gratification of Wonder; just as involuntary activity of Cautiousness during sleep, excites the intellectual organs to conceive objects of terror, producing thereby frightful dreams. This theory is rendered probable by the fact, that diseased excitement of the knowing organs produces spectral illusions, independently of an affection of the organ of Wonder. Mr. Simpson has communicated an admirable paper on this subject to the Phrenological Journal,* to which I shall have occasion afterwards to refer. The natural language of this faculty is nodding the head obliquely upwards and in the direction of the organ. I have observed a person telling another in whom this organ predominated a wonderful story, and at the end of the narrative the listener nodded his head upwards two or three times, and ejaculated an expression of surprise. An individual in whom the organ is small will not naturally do this.

The general function of the organ is regarded as ascertained; but its metaphysical analysis is still incomplete.

19. — IDEALITY.

THIS organ is situated nearly along the lower edge of the temporal ridge of the frontal bone. Dr. Gall gives the following account of its discovery.

The first poet whose head arrested his attention, on account of its form, was one of his friends, who frequently composed *extempore* verses when least expected to do so; and who had thereby acquired a sort of reputation, although in other respects a very ordinary person. His forehead immediately above the nose, rose perpendicularly, then retreated, and extended itself a good deal laterally, as if a part had been added on each side. He recollected having seen the same form in the bust of Ovid. In other poets, he did not find, as a constant occurrence, the forehead first perpendicular and then retreating, so that he regarded this shape as accidental; but in all of them he observed the prominences in the anterior lateral parts of the head, above the temples. He began then to look upon these prominences as the distinctive marks of a natural talent for poetry; but still he spoke to his hearers on the subject with a degree of doubt, especially as, at this period, he was not convinced that a talent for poetry depended on a primitive mental faculty. He waited, therefore, before deciding definitively, till he had made a greater number of observations.

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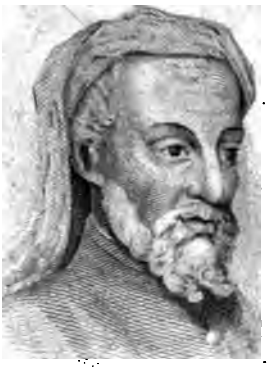
* No. vi. p. 290.

A short time afterwards, he got the head of the poet Alxinger, in which this part of the brain, and also the organ of Adhesiveness, were very much developed, while the other portions were so only in a small degree. A little after this, the poet Junger died, and Gall found the same prominences also in his head. He found the same parts still larger in the poet Blumauer, with a large organ of Wit. At this time, Wilhelmine Maisch acquired reputation at Vienna by his poetry; and the same enlargement was found in his head, above the temples. Dr. Gall observed the same organization in Madame Laroche, at Offenbach, near Francfort; in Angelique Kaufmann; in Sophia Clementina of Merklen; in Klopstock; in Schiller, of whom he had a mask; and also in Gesner of Zurich. In Berlin he continued to speak of this organ still with considerable reserve, when M. Nicolai invited him and Dr. Spurzheim to see a collection of about thirty busts of poets in his possession. They found, in every one of them, the part in question projecting more or less considerably, according as the talent was manifested in a higher or lower degree in each poet. From that moment he taught boldly, that the talent for poetry depends on a primitive faculty, and that it is connected with this part of the brain as its special organ.

In Paris, Dr. Gall moulded the head of Legouvé after his death, and found this organ large. He and Dr. Spurzheim opened the head of the late Delille, and pointed out to several physicians who were present, the full developement of the convolutions placed under the external prominences at this part; these convolutions projected beyond all the others. Dr. Gall preserved a cast of one

LOCKE



CHAUCER

[illegible]

of the hemispheres of the brain ; so that this statement may still be verified. In a pretty numerous assemblage, Dr. Gall was asked what he thought of a little man, who sat at a considerable distance from him ? As it was rather dark, he said, that, in truth, he could not see him very distinctly, but that he observed, nevertheless, the organ of poetry extremely developed. He was then informed that this was the famous poet François, generally named *Cordonnier*, from his having been bred a shoemaker.* "If we pass in review," says Dr. Gall, "the portraits and busts of the poets of all ages, we shall find this configuration of head common to them all ; as in Pindar, Euripides, Sophocles, Heraclides, Plautus, Terence, Virgil, Tibullus, Ovid, Horace, Juvenal, Boccacio, Ariosto, Aretin, Tasso, Milton, Boileau, J. B. Rousseau, Pope, Young, Grosset, Voltaire, Gesner, Klopstock, Wieland," &c. Dr. Bailly, in a letter, dated Rome, 30th May, 1822, addressed to Dr. Brayer, says : "You may tell Dr. Gall that I have a mask of Tasso, taken from nature, and that, although part of the organ of poetry be cut off, nevertheless the lateral breadth of the cranium in this direction is enormous."

The bust of Homer presents an extraordinary developement at this part of the head. It is doubted whether it be authentic ; but, be it real or ideal, the existence of the prominence is remarkable. If it be ideal, why was the artist led to give this particular form, which is the only one in accordance with nature ? If he modelled the head of the most distinguished poet of his day, as the best representative of Homer, the existence of this developement is still a fact in favor of the organ.

We owe to Dr. Spurzheim the correct analysis of this faculty, and the very elegant and appropriate name by which it is designated. "It is impossible," says he, "that poetry in general should be confined to one single organ ; and I therefore think that the name "Organ of Poetry, (used by Dr. Gall,) does not indicate the essential faculty."—"In every kind of poetry, the sentiments are exalted, the expressions warm; and there must be rapture, inspiration, what is commonly called Imagination or Fancy."

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* A cast of the head of this individual is in the Phrenological Society's collection, Edinburgh, and in De Ville's, London. The organ in question is uncommonly large.

This faculty produces the desire for exquisiteness, or perfection, and is delighted with what the French call "Le beau idéal." It is this faculty which gives *inspiration* to the poet. The knowing and reflecting faculties perceive qualities as they exist in nature; but this faculty desires, for its gratification, something more exquisitely perfect than the scenes of reality. It desires to elevate and to endow with a splendid excellence every object presented to the mind. It stimulates the faculties which form ideas to create scenes, in which every object is invested with the qualities which it delights to contemplate. It is particularly valuable to man as a progressive being. It inspires him with a ceaseless love of improvement, and prompts him to form and realize splendid conceptions. It gives a manner of feeling and of thinking, befitting the regions of fancy, rather than the abodes of men. Hence those only on whom it is powerfully bestowed can possibly be poets, ana hence the proverb, "*poëta nascitur, non fit.*"

Those who experience a difficulty in conceiving what the faculty is, may compare the character of Blount with that of Raleigh in Kenilworth: "But what manner of animal art thou thyself, Raleigh," said Tressilian, "that thou holdest us all so lightly?"—"Who I?" replied Raleigh, "An eagle am I, that never will think of dull earth, while there is a heaven to soar in, and a sun to gaze upon;"—Or they may compare the poetry of Swift with that of Milton; the metaphysical writings of Dr. Reid with those of Dr. Thomas Brown; the poetry of Crabbe with that of Byron; or Dean Swift's prose with that of Dr. Chalmers.

It was this faculty, "by whose aid" Shakspeare imagined the characters of *Ariel* and *Prospero*. *Prospero's* concluding speech in the Tempest, is a beautiful specimen of the style of writing which it produces.

"I have bedimmed
The noon-tide sun, call'd forth the mutinous winds,
And 'twixt the green sea and the azur'd vault
Set roaring war; to the dread rattling thunder
Have I giv'n fire, and rifted Jove's stout oak

> With his own bolt; the strong bas'd promontory
> Have I made shake, and by the spurs plucked up
> The pine and cedar; graves at my command
> Have waked their sleepers; open'd and let them forth
> By my so potent art. But this rough magic
> I here abjure; and when I have required
> Some heavenly music, which even now I do,
> To work mine end upon their senses, that
> This airy charm is for; I'll break my staff;
> Bury it certain fathoms in the earth;
> And, deeper than did ever plummet sound,
> I 'll drown my book."

Individuals differ exceedingly in regard to the endowment of this faculty which they possess. According to the energy and activity of it, poetry is prized or relished. I have met individuals who declared that they could perceive no excellence in poetical compositions, and could derive no gratification from them; and yet such individuals were endowed with every degree of understanding and penetration, according as they possessed the other faculties strongly or weakly, and were not uniformly deficient, either in moral sentiments or judgment, in proportion to their want of poetic fire.

This faculty gives a peculiar tinge to all the other faculties. It makes them, in every thing, aspire to Ideality. A cast of the human head is a plain transcript of nature; a bust is nature, elevated and adorned by the ideality of a Chantry, a Joseph, or a Macdonald. Add a large developement of this organ to the other propensities, sentiments and reflecting powers, and it expands the field of their interest; carries them outwards, and forwards, and upwards: and causes them to delight in schemes of improvement. In common life, we easily distinguish those who have, from those who have not, a considerable endowment of it. The former speak, in general, in an elevated strain of language, and, when animated, show a splendor of eloquence and of poetical feeling, which the latter are never able to command. It gives to conversation a fascinating sprightliness and buoyancy, the very opposite of the qualities expressed by the epithets, dryness and dulness.

Some sects in religion, and, among others, that most respectable body The Society of Friends, declaim against ornament in dress, furniture, and other modes of life; they renounce these as vanity, while they hold up the solid and the useful as alone worthy of rational and immortal beings. Now, this is the natural feeling of persons in whom Benevolence, Conscientiousness, and Veneration are large, and Ideality very deficient,—and I have no doubt that the original propounders of these notions possessed this combination; but this is not the language of universal human nature, nor of physical nature either. Where Ideality exists to a considerable extent, there is an innate desire for the beautiful, and an instinctive love and admiration of it; and so far from the arrangements of the Creator in the material world being in opposition to it, he has scattered, in the most profuse abundance, objects calculated, in the highest degree, to excite and gratify the feeling. What are the flowers that deck the fields, combining perfect elegance of form with the most exquisite loveliness, delicacy, and harmony of tint, but objects addressed purely to Ideality, and the subordinate faculties of Coloring and Form? They enjoy not their beauty themselves, and afford neither food, raiment, nor protection to the corporeal frame of man: on this account, some persons have been led to view them as merely nature's vanities and shows, possessed neither of dignity nor utility. But the individual in whom Ideality is large, will in rapture say, that they, and the lofty mountain, the deep glen, the roaring cataract, and all the varied loveliness of hill and dale, fountain and fresh shade, afford to him the banquet of the mind; that they pour into his soul a stream of pleasure so intense, and yet so pure and elevated, that, in comparison with it, all the gratifications of sense and animal propensity sink into insipidity and insignificance. In short, to the phrenologist, the existence of this faculty in the mind, and of external objects fitted to gratify it, is one, among numberless instances, of the boundless beneficence of the Creator towards man; for it is a faculty purely of enjoyment, one whose sole use is to refine, and exalt, and extend, the range of our other powers, to confer on us higher susceptibilities of improvement, and a keener relish for all that is great and glorious in the universe.

In conformity with this view, the organ is found to be deficient in all barbarous and rude tribes of mankind, and large in the nations who have made the highest advances in civilization. It is small in atrocious criminals; and I have observed, that persons who are born in the lower walks of life, but whose talents and industry have raised them to wealth, are susceptible of refinement in their manners, and habits, and sentiments, in proportion to the developement of this organ, and that of Love of Approbation. When it is small, their primitive condition is apt to stick to them through life; when large, they make rapid advances, and improve by every opportunity of intercourse with their superiors.

This faculty, then, joined with Love of Approbation, and using Constructiveness, Form, Coloring, and other knowing faculties as their instruments, produce all the ornaments of dress and architecture; they lead to the production of poetry, painting, sculpture, the fine and ornamental arts. The Society of Friends, therefore, and the followers of Mr. Owen, who declaim against ornament, ask us to shut up one of the greatest sources of enjoyment bestowed upon us. An elegant vase, a couch, or chair, fashioned in all the delicacy of form and proportion that Ideality, aided by the other powers, can attain, or the human form attired in dress, in which grace, utility, and beauty, are combined, are objects which our faculties *feel* to be agreeable; the pleasure arising from them is natural, and of so excellent a quality, that it is at once acknowledged and approved of by intellect, and every other faculty of the mind.

In private life, Ideality generally displays itself, as one element in producing correctness of taste. Great Love of Approbation may give a passion for finery, but we sometimes see intended ornaments turn out deformities, through a want of taste in their selection, and this, I conceive, to arise partly, from a defective endowment of the faculty in question. If, on the other hand, we enter a house in which exquisite taste reigns in every object, in which each particular ornament is made subservient to the general effect, and the impression from the whole is that of a refined and pleasing elegance, we may be almost certain of finding Love of Approbation combined with large Ideality in one or both of the possessors. Indeed, where the degree of wealth is equal in different persons, we might almost guess at the extent of these two faculties, by the different degrees of splendor in their domestic establishment; and in cases where homeliness is the prevailing feature, while affluence is enjoyed, we may predicate a very moderate Ideality in the one or other of the heads of the family. I have frequently observed, in persons who, from a humble origin, have become rich by commerce, an intense passion for this species of domestic splendor, and, without a single exception, I have remarked Love of Approbation and Ideality largely developed in their heads.

The Plate represents the organ large in Chaucer, Shakspeare, Rousseau, and deficient in Locke and William Cobbett.

The relish for poetry or the fine arts is generally in proportion to the developement of Ideality. It is necessary to a player of tragedy. The tone or note of voice suitable to Ideality is elevated and majestic, and hence it is essential to enable the actor to feel and express the greatness of the personages whom he represents.

In some individuals the front part of this organ is most developed, in others the back part; and from a few cases which I have observed, there is reason to believe that the latter is a separate organ. The back part is left without a number on the bust, and a point of interrogation is inscribed on it, to denote that the function is a subject of inquiry. The back part touches Cautiousness; and I suspect an excitement of this organ, in a moderate degree, is an ingredient in the emotion of the sublime. The roar of thunder, or of a cataract; the beetling cliff suspended half way betwixt the earth and heaven, and threatening to spread ruin by its fall,—impress the mind with feelings of terror; and it is only such objects that produce the sentiment of sublimity. It would be interesting to take two individuals with equal Ideality, but the one possessed of much, and the other of little, Cautiousness, to the Vale of Glencoe, the Pass of Borrowdale, the Cave of Staffa, or some other scene in which the elements of the sublime predominate, and to mark their different emotions. I suspect the large Cautiousness would give the most profound and intense emotions of sublimity.

This faculty, like all others, may be abused. When permitted to take the ascendency of the other powers, and to seek its own gratification, to the neglect of the serious duties of life, and when cultivated to so great an excess as to produce a finical and sickly refinement, it then becomes a source of great evils. It appears in Rousseau to have reached this state of diseased excitement. "The impossibility of finding actual beings (worthy of himself), threw me," says he, "into the regions of fancy; and seeing that no existing object was worthy of my delirium, I nourished it in an ideal world, which my creative imagination soon peopled to my heart's desire. In my continual ecstasies, I drank in torrents of the most delicious sentiments which ever entered the heart of man. Forgetting altogether the human race, I made society for myself of perfect creatures, as celestial by their virtues as their beauties, and of sure, tender, and faithful friends, such as I have never seen here below. I took such delight in gliding along the air with the charming objects with which I surrounded myself, that I passed hours and days without noting them; and losing the recollection of every thing, scarcely had I eaten a morsel, but I burned to escape," and return to this enchanted world. The theory of this condition of mind appears to be this: Rousseau elevated every faculty in his imaginary personages, till it reached the standard of excellence fitted to please his large Ideality, and then luxuriated in contemplation of the perfection which he had created.

In common life, the passion for dress, ornament, and finery, which in some individuals goes beyond all reasonable bounds, and usurps the place of the serious and respectable virtues, results from an abuse of Ideality, Wonder, and Love of Approbation, and is generally combined with a deficient developement of Conscientiousness and Reflection.

In an hospital, Dr. Gall found this organ considerably developed in a man who was insane; and remarked to the physicians who accompanied him, that he observed the exterior sign which indicated a talent for poetry. The patient, in point of fact, possessed this talent; for in his state of alienation, he continually composed verses, which sometimes were not deficient in point and vigor.

He belonged to the lowest class, and had received no education. In the collection of M. Esquirol, Dr. Gall saw a mask of an insane person, who also was habitually occupied in versifying; and in it the organ in question is considerably larger than any of the others.

This faculty corresponds in some degree to that of "Taste," admitted by Mr. Stewart; only he regards taste as one of the powers acquired by habits of study or of business.

Dr. Thomas Brown * treats of beauty as an original emotion of the mind, and his doctrine might, with the change of names, be almost adopted by the phrenologist in speaking of Ideality. According to our doctrine, the knowing and reflecting faculties perceive objects, as they exist in nature, say a landscape, or a Grecian temple; and the faculty of Ideality, excited into activity by their features, glows with a delightful and elevated emotion; and to the qualities in the external objects which kindle this lively sentiment of pleasure, we ascribe the attribute of beauty. Beauty, therefore, as a strong emotion, is enjoyed only when the knowing and reflecting faculties act in conjunction with Ideality. If the intellect acts alone, Ideality remaining quiescent, no vivid feeling of beauty will be experienced;—or, if a person is extremely deficient in Ideality, then the most lovely objects in external nature will appear to him invested in all their attributes of form, color, size, and relative position; but he will never thrill with that sublime emotion, or that ecstatic delight, which draws forth the exclamation that the object contemplated is exquisitely beautiful. Dr. Thomas Brown, in perfect conformity with this doctrine, says, "You are now in no danger of confounding that view of Beauty, which regards it as an *emotion*, dependent on the existence of certain previous perceptions or conceptions, which may induce *it*; but may also, by the operation of the common laws of suggestion, induce, at other times, in like manner, *other* states of mind, exclusive of that emotion,—with the very different doctrine, that regards beauty as the object of a peculiar internal *sense*, which might, therefore, from the analogy conveyed in that name, be supposed to be uniform in its feelings, as our other senses, on the presence of their particular objects, are uniform, or nearly uniform, in the intimations afforded by *them*. Such a *sense* of beauty," says he, "as a fixed regular object, we assuredly have not; but it does not follow, that we are without such an original susceptibility of a mere emotion, that is not, like sensation, the direct and uniform effect of the presence of its objects, but may vary in the occasions on which it rises, like our other emotions; love, for example, or hate, or astonishment, which various circumstances may produce, or various circumstances may prevent from arising."

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* Vol. iii. p. 134-5.

If Dr. Brown had added to his theory, that some individuals possess from nature a great susceptibility of experiencing the emotion of beauty, while others appear almost insensible to it, as is the case also with the emotions of love, hate, and astonishment, which he mentions, and that this constitutional difference is one great cause of the different perceptions of beauty enjoyed by different persons, he would have rendered his explanation of the phenomena nearly complete.

Mr. Stewart has written an Essay on Beauty, in which he arrives at the conclusion, that this word does not denote one single and simple emotion only, but that, in a variety of instances, in which external objects excite agreeable feelings, they are said to be beautiful, although the kinds of emotion which they call forth are very different. Thus, it is correct speech to call a mathematical theorem beautiful, a rose beautiful, and a lovely woman beautiful; yet the qualities of these three objects, and the kinds of emotion which they excite, are so different, that they have no common property, except that of the feeling excited by all of them being agreeable.

Mr. Stewart appears to be correct in this observation, and it is valuable, in so far as it directs our attention to the vagueness of the word *beauty*; but it throws no light on the theory of the beautiful itself. Phrenology, however, enables us to supply Mr. Stewart's deficiency in this respect. Every faculty is gratified with contemplating the objects to which it is naturally related. An elevated hymn pleases the faculty of Veneration, and is, on account of raising this delight, pronounced to be beautiful. A symmetrical figure gratifies the faculty of Form, and, on account of the pleasure it produces, is also termed beautiful. A closely logical discourse pleases Causality and Comparison, and on this account is also said to be beautiful. Hence, the inventors of language, little prone to nice and metaphysical distinctions, framed the word *beauty*, to express only the general emotion of pleasure, of a calm and refined nature, arising in the mind, on contemplating a variety of outward objects; and in this sense a person may be alive to beauty, who enjoys a very imperfect endowment of Ideality. But the function of this faculty is to produce a peculiarly grand and intense emotion of a delightful nature, on surveying certain qualities in external objects; and it surpasses so vastly in strength and sublimity, the feelings of beauty communicated by the other faculties, that it may itself be regarded as the fountain of this delightful emotion, and be styled the Faculty of the emotion of Beauty. When active from internal causes it desires beauty, splendor, grandeur, and perfection, for its gratification, and prompts the other faculties to produce and seek out objects invested with these qualities.

The question has been much agitated, What constitutes poetry? The answer afforded by Phrenology is, that the elements of poetry are all the feelings and perceptions of the human faculties, and all their productions embued with the quality of Ideality. Ideality itself is a primitive emotion, which may be described but cannot be defined. It harmonizes, and may therefore blend with every emotion, conception, and production, whose striking qualities are not in opposition to its own nature. If it be the feeling of the beautiful, then it will naturally combine with the highest and best manifestations and productions of the other faculties, and stand opposed to all imperfection.

By communicating the desire of perfection, Ideality erects a high standard in the mind, by which to compare actual attainments. Viewed in this light, it appears to be an important element in the mental constitution of man, as a progressive being. To the lower animals, which cannot pass beyond their primitive condition, a desire of arriving at a more perfect state would have been a source of pain; whereas to man, with an undefined scope of improvement before him, no feeling could be more useful and delightful. When regulated by reason, the perfection which it aims at is not that which belongs to God or to superior Beings; but that which results from the best action of all the powers of man as a limited being.

Mr. Jeffrey's article on Beauty, in the Supplement to the Encyclopædia Britannica,* appears to me to proceed on a misconception of the theory of Dr. Brown, and to be unsound and inconsistent with human nature. Mr. Jeffrey conceives that all "emotions of beauty and sublimity must have for their objects the sufferings or enjoyments of sentient beings;" and he rejects, "as *intrinsically absurd and incredible*, the supposition, that material objects, which obviously do neither hurt nor delight the body, should yet excite, by their mere physical qualities, the very powerful emotions which are sometimes excited by the spectacle of Beauty." Accordingly he lays it down, that the pleasure we enjoy in contemplating a Highland landscape, arises from associating, with the wilds which we gaze upon, ideas of the rude sons of the mist and the mountain who inhabit them; from our conjuring up, while we look upon their scenes, recollections of their loves, their hates, their strifes, their shouts of victory, and their lamentations over the dead; and from our ascribing the delight occasioned by these emotions to the external objects themselves, as their cause, and conceiving them to possess the quality of beauty, when in truth they are only the occasions which excite these other emotions in our minds. In the bust of Mr. Jeffrey, Ideality is not the most prominent feature; but the organs of Eventuality, Comparison, and Causality are large; and this combination would produce precisely such a state of mind, on surveying a mountain-pass, as he here describes. Ideality not being very energetic, the emotions of sublimity and grandeur would be secondary in power; whereas Eventuality, Comparison, and Causality, being more vigorous, and in ceaseless activity, would suggest a thousand incidents and their *relations* connected with the scene. This state of mind, however, would be peculiar to those possessing this combination.

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* Page 181.

To put this theory to the test of experience, I accompanied a French gentleman to the Trosachs, and marked his emotions as he stood right in the gorge of the pass leading towards Loch Katrine. He was comparatively a stranger to the manners, customs, and history of Scotland; although, at the same time, from acquaintance with English literature, he might have possessed some few ideas concerning the inhabitants of the mountains, to associate with the rocks which he beheld. He possessed, however, considerable Ideality, and a cultivated understanding. When the scene burst upon him, in the full effulgence of its glory, he stood in mute astonishment and delight, until I asked him, What *ideas* were passing in his mind? His answer was, "Mon Dieu, je sens, et je ne pense pas." I explained to him the motive of the question, and he declared that he experienced only emotions of the most intense and elevating kind; that every nerve thrilled with pleasure, and that he thought of nothing, but resigned himself entirely to these delightful sensations. On analyzing his emotions he said, that he felt his mind excited to rapture, by the richness and exquisite elegance of the trees and shrubs with which the mountains were clothed; that his soul was awed into sublimity, by the stupendous cliffs which towered in magnificence to the clouds; and that even the chill of fear crept silently along his nerves, as the projecting precipices were perceived threatening to fall, and cut off communication with the world around: and again he declared, that he thought not, and cared not, who inhabited the wilds, until the force of the first and most exquisite impression was spent; and then his mind began to be occupied with ideas of collateral objects, or coolly to think, and every moment thereafter the impression diminished in intensity, and at last ceased entirely to be felt.

On another occasion I accompanied a gentleman, also of education and a cultivated understanding, but with little Ideality, to the same spot. He looked calmly around and observed: "Pretty trees these! High hills! Terrible uproar of elements been here! Difficult pass for the Highlanders!" &c. &c. but exhibited no emotion, and no deep-toned sentiment of the sublime, like the other.

The first of these instances showed, that the supposition "that material objects, which obviously do neither hurt nor delight the body, should yet excite, by their mere physical qualities, the very powerful emotions which are sometimes excited by the spectacle of beauty," is not quite so "intrinsically absurd and incredible," as Mr. Jeffrey imagines; while the second instance indicated that Ideality is truly the faculty which feels the beautiful and the sublime, and that, where it is not powerful, the most magnificent scenes may be regarded with pleasure, but with no intense feeling of beauty.

In composition, this faculty imparts splendor and elevation to the style, and it may manifest itself in prose as well as in poetry. The style of Lord Bacon is remarkably imbued with the splendors of Ideality, sometimes to excess, while that of Locke is as decidedly plain; and the portraits of both show that their heads corresponded with these different manifestations. Hazlitt's head, which I have seen, indicates a large developement of Ideality, and the faculty glows in all his compositions. In Mr. Jeffrey's head, as it appears in the bust, it does not predominate. The report was current at the time, that the review of Lord Byron's Tragedies, which appeared in No. lxxii. of the Edinburgh Review (February 1822,) was the joint production of these two celebrated authors; and keeping in view the fact, that Mr. Hazlitt's Ideality is larger than Mr. Jeffrey's, it would not be difficult, by a careful analysis of the article, to assign to each the sentences which he wrote. Mr. Jeffrey's predominating intellectual organs are Eventuality, which treasures up simple incidents and observations; Comparison, which glances at their analogies and relations; and Causality, which gives depth and logical consistency to the whole. Hazlitt, on the other hand, possesses a large Comparison, respectable Causality, with a decidedly large Ideality, elevating and adorning his intellectual conceptions. Proceeding on these views, I would attribute the following sentence to Jeffrey's pen, as characteristic of his manner. Speaking of the qualities of Shakspeare's writings, the reviewer says, "Though time may have hallowed many things that were at first but common, and accidental associations imparted a charm to much that was in itself indifferent, we cannot but believe that there was an original sanctity which time only matured and extended; and an inherent charm, from which the association derived all its power. And when we look candidly and calmly to the works of our early dramatists, it is impossible, we think, to dispute, that, after criticism has done its worst on them; after all deductions for impossible plots and fantastical characters, unaccountable forms of speech, and occasional extravagance, indelicacy, and horrors; there is a facility and richness about them, both of thought and of diction; a force of invention, and a depth of sagacity; an originality of conception, and a play of fancy; a nakedness and energy of passion, and, above all, a copiousness of imagery, and a sweetness and flexibility of verse, which is altogether unrivalled in earlier or in later times; and places them, in our estimation, in the very highest and foremost place among ancient or modern poets."* In this passage, we have the minuteness of enumeration of Eventuality, the discrimination of Comparison and Causality, and the good taste of a fair, but none of the elevation, ornament, and intensity of a large, Ideality. In another part of the same review, we find the following sentences: In Byron,† "there are some sweet lines, and many of great weight and energy; but the general march of the verse is cumbrous and unmusical. His lines do not vibrate like polished lances, at once strong and light, in the hands of his persons, but are wielded like clumsy batons in a bloodless affray."—"He has too little sympathy with the ordinary feelings and frailties of humanity, to succeed well in their representation. His soul is like a star, and dwells apart."—"It does not 'hold the mirror up to nature,' nor catch the hues of surrounding objects; but, like a kindled furnace, throws out its intense glare and gloomy grandeur on the narrow scene which it irradiates." Here we perceive the glow of Ideality; the simplicity of the former style is gone, and the diction has become elevated, figurative, and ornamental. I am not informed regarding the particular sentences which each of the above gentlemen wrote in this review; but these extracts will serve as brief examples of the differences produced on the style, when Ideality sheds few or many beams on the pen of the author; and I regard the probabilities as very strong, that the passages are assigned to their appropriate sources.

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* P. 416-17.

† P. 420.

The organ is ascertained.

20.—WIT, OR MIRTHFULNESS.

EVERY one knows what is meant by Wit, and yet no word presents more difficulties in its definition. Dr. Gall observes, that, to convey a just idea of the faculty, he could discover no better method than to describe it as the predominant intellectual feature in Rabelais, Cervantes, Boileau, Racine, Swift, Sterne, Voltaire. In all these authors, and in many other persons who manifest a similar talent, the anterior-superior-lateral parts of the forehead are prominent and rounded. When this developement is excessively large, it is attended with a disposition, apparently irresistible, to view objects in a ludicrous light.

Wit, however, is not the only cause of laughter. Laughter, like crying, may arise from a variety of faculties. I am acquainted with a boy in whom Acquisitiveness is large, and he laughs when one gives him a penny. Another youth who possesses a large Love of Approbation, laughs when unexpected praise is bestowed upon him. These facts, to which many more might be added, show that we may smile from any pleasing affection of the sentiments, or even of some of the propensities; and that the cause of a smile is not always the ludicrous. This view is confirmed by the circumstances which occur in hysterical affections. It is not uncommon to see a lady or child laugh and cry alternately and involuntarily, apparently on account of some varying affection of the whole mental system, rather than from any particular, ludicrous, or distressing idea presenting itself by turns to the fancy. I have noticed farther, that a large developement of Hope, Benevolence, and Wonder, producing happy emotions, predisposes the possessor to laugh; while Veneration, Conscientiousness, and Reflection, when predominant, give rise to a natural seriousness and gravity, adverse to laughter, the tone of these faculties being grave and solemn.

There may be much excellent wit, without exciting us to laugh. Indeed Lord Chesterfield lays it down as a characteristic feature of an accomplished gentleman, that he should never laugh; and although this rule is absurd, yet there may be a high enjoyment of wit without laughter. The following are instances in point. There is a story of a Nottinghamshire publican, *Littlejohn* by name, who put up the figure of *Robin Hood* for a sign, with the following lines below it:

"All ye that relish Ale that 's good,
Come in and drink with *Robin Hood;*
If *Robin Hood* is not at home,
Come in and drink with *Littlejohn*."

This is genuine wit, what even Chesterfield would allow to be so; and yet it does not force us to laugh. Another instance is the following: Louis XV. once heard that an English nobleman (Lord Stair) at his court was remarkably like himself. Upon his Lordship's going to court, the King, who was very guilty of saying rude things, observed, upon seeing him, "A remarkable likeness, upon my word!—My Lord, was your *mother* ever in France?" To which his Lordship replied, with great politeness: "No, please your majesty, but my *father* was.' This also is admirably witty; but it does not excite laughter. In Prior's song upon a young lady entreating her mother to allow her to *come out* (as it is called), there is an allusion which, also, is very fine wit, although it is not laughable. The lady is alluding to the liberty enjoyed, and the conquests made, by her elder sister. The last verse is as follows:

"Dear, dear mamma, for once let me
Like *her* my fortune try,
I 'll have an Earl as well as she,
Or know the reason why."

The fair prevailed,—mamma gave way,
And KITTY, at her desire,
OBTAINED THE CHARIOT FOR A DAY
AND SET THE WORLD ON FIRE.'

In all these instances, every one endowed with any portion of the organ now under consideration, must *feel* wit, although no vivid emotion of laughter is excited. In the following cases, again, the risible muscles are much more affected, when, in fact, the real point of wit contained in them is infinitely less.

The story of the Nottingham publican, named Littlejohn, who erected the sign of *Robin Hood*, goes on to say, that Mr. Littlejohn having died, his successor thought it a pity to lose so capital a sign, and so much excellent poetry, and accordingly retained both, only erasing his predecessor's name, he substituted his own in its place. The lines then ran thus:

> "All ye who relish Ale that's good,
> Come in and drink with *Robin Hood;*
> If *Robin Hood* is not at home,
> Come in and drink with SAMUEL JOHNSON."

The whole wit is now gone, and yet the lines are infinitely more laughable than before. In like manner, when a servant let a tongue fall from a plate, and a gentleman at the table said, "Oh, never mind; its a mere *lapsus linguæ;*" there was genuine wit in the remark; but when another servant, who had heard that this was witty, let fall a shoulder of mutton, and thought to get off, by styling this accident, too, a *lapsus linguæ*, the whole wit was extinguished, but laughter would be more irresistibly provoked. Now, in what does the wit of the first instances consist? and what is the cause of the more laughable effect of the second class of cases, in which the wit is actually extinguished?

This leads us to a definition of Wit. Locke describes Wit as "lying most in the assemblage of ideas, and putting these together with quickness and variety, wherein can be found any *resemblance* or *congruity*, *thereby* to make up pleasant pictures, and agreeable visions in the fancy.*" Now, it may be demonstrated, that this definition is erroneous. For example, when Goldsmith, in his beautiful verses on Hope, compares that great blessing of humanity to the light of a taper, he adds a circumstance of resemblance,

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* Essay, b. ii. c. xi. § 2.

The question, then, occurs, Which is the faculty that perceives *differences?* Mr. Scott has been led to believe, that it depends upon the faculty of Wit, and that the primitive function of this power is to distinguish differences, while Comparison perceives resemblances. He conceives that in all the foregoing instances in which Wit is recognised, there is "a mixture of congruity and incongruity, or incongruity appears where congruity was expected," which in principle is one and the same thing. This is nearly the definition of Wit given by Beattie, and it also approaches closely to that given by Campbell and Dr. Thomas Brown. Now, he says that the proper function of the faculty under discussion is to perceive *difference*, to observe, in short, *incongruity*, and that it is only when this is done that Wit is at all recognised. The wit in Lord Stair's reply lies in the incongruity between the answer which Louis received, and that which he expected. He evidently anticipated that Stair would say that his mother had been in France; and the King meant it to be inferred, that she had been false, and that Stair was his brother. His Lordship's reply, on the contrary, completely turned the tables on the King. "No, but my *father* was," implied that Louis, by parity of reason, was descended of Stair's father. In like manner when Kitty

"*Obtained the chariot for a day*
And set the world on fire;"

we perceive comparison between the young beauty's exploit and that of *Phæton* with the chariot of the Sun, and the difference or incongruity is so striking, that we feel it as an essential ingredient in the description, and relish it as wit. In the comparison of Hope to the taper, on the other hand,

"Which still as darker grows the night
Emits a brighter ray,"

we attend only to the *resemblance*, which is very striking and beautiful, and *not to the points of difference;* and then the image strikes us as a *pure comparison*, and not as implying any incongruity, and, in consequence, it is not felt as witty.

differ from those which are not witty? This brings us at last to the true definition of Wit, and to the main object of all these remarks, the functions of the organ now under consideration.

The authority of the metaphysicians tends to support the idea that the talent for perceiving resemblances is distinct from that which discriminates differences. Malbranche observes, that "There are geniuses of two sorts. The one remarks easily the *differences* existing between objects, and these are the excellent geniuses. The others imagine and suppose resemblances between things, and these are the *superficial* minds."* Locke makes the same distinction. After speaking of Wit, as "lying most in the assemblage of ideas wherein any resemblance can be found," he proceeds thus: "Judgment, on the contrary, lies quite on the other side, in *separating carefully, one from another*, ideas wherein can be found *the least difference*, thereby to avoid being misled by *similitude, and by affinity, to take one thing for another*."† Lord Bacon says, that "the chief and (as it were) radical distinction betwixt minds, in regard to philosophy and science, is this,—that some minds have greater power, and are more fitted for the observation of the *differences*, others for the observation of the *resemblances*, of things."

These ideas will be better understood by an illustration. The objection is often stated, that Phrenology is no science, because a large organ of Destructiveness and a large organ of Benevolence may be found in the same head, and then they will *neutralize each other, like an acid and an alkali*. This objection would spring from a mind in which the power of perceiving resemblances was greater than that which perceives differences, and would appear conclusive at first sight to minds similarly constituted. But a person having a large endowment of the faculty for perceiving distinctions, would discriminate in a moment the *difference* between two chemical substances, placed in a state of mechanical mixture, and two organs subsisting separately, having distinct functions, and calculated for acting on different occasions; and he would see that the analogy had no force whatever.

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* Rech de la Verité, liv. ii. 2d part c ix.

† Essay, &c. b. ii. c. xi. sect. 2.

given a different analysis of this faculty, and illustrated it with much ability. He regards it as an intellectual power, whose function is to take cognizance of the nature or intrinsic properties of things, the office of Causality being to perceive the "relations of causation and dependence in general." According to him, the ludicrous is a *mode* of manifestation of all the intellectual faculties, and he gives examples in which Sheridan and Moore display great Wit, chiefly from Individuality and Comparison. The faculty now under discussion, produces wit also as a *mode* of manifestation; but he conceives that it does so always, by comparing or contrasting the *intrinsic qualities* of objects. The study of character "is included in the functions of Wit, not merely the actions performed, but the real dispositions." "Let us now take up," says he, "the Sentimental Tour of Sterne, in whose mask Causality and Wit are predominating organs. Almost the whole tenor of this work, unlike that of most tourists, consists of disquisitions concerning the dispositions and inherent qualities of persons and things; for, instead of narrating whom and what he saw, his attention seems to have been absorbed in speculations as to their conditions, dependences, nature, and qualities. We wish to condense the evidence in support of the views now advanced concerning the organ of Wit, and shall therefore be sparing in our quotations from each author, and, indeed, select them rather as examples than evidence, leaving to those who may feel inclined the office of trying their soundness, by reference to the general writings of the authors enumerated. In the Preface written for the Sentimental Journey we have the following disquisition:

"'Your idle people leave their native country, and go abroad for some reason or reasons, which may be derived from one of these general causes,—Inferiority of body;—Imbecility of mind;—or Inevitable necessity.

"'The two first include all those who travel by land or by water, laboring with pride, curiosity, vanity, or spleen, subdivided and combined *ad infinitum*.

"'The third class includes the whole army of peregrine martyrs; more especially those travellers who set out upon their travels with the benefit of clergy, either as delinquents travelling under the direction of governors recommended by the magistrates, —or young gentlemen transported by the cruelty of parents and guardians, and travelling under the direction of governors recommended by Oxford, Aberdeen, and Glasgow.

“ ‘ There is a fourth class, but their number is so small, that they would not deserve a distinction, were it not necessary in a work of this nature, to observe the greatest precision and nicety, to *avoid a confusion of character*. And these men I speak of, are such as cross the seas, and sojourn in a land of strangers, with a view of saving money for various reasons, and upon various pretences; but as they might also save themselves and others a great deal of unnecessary trouble, by saving their money at home, and as their reasons for travelling are the least complex of any other species of emigrants, I shall distinguish these gentlemen by the name of ‘ Simple Travellers.’

“ ‘ Thus the whole circle of travellers may be reduced to the following heads :

Idle Travellers,
Inquisitive Travellers,
Lying Travellers,
Proud Travellers,
Vain Travellers,
Splenetic Travellers.

“ ‘ Then follow

The Travellers of Necessity,
The Delinquent and Felonious Traveller,
The Unfortunate and Innocent Traveller,
The Simple Traveller ; and, lastly,
The Sentimental Traveller (meaning thereby myself).’ ”

“ There is in these distinctions an admixture both of Philosophy and Wit, but certainly more of the former ; and if our readers have gone along with our previous conclusions, they will scarcely hesitate to attribute both the one and the other to the organ bearing the cognomen of the latter. Again, he says :

“ The sons and daughters of service part with liberty, but not *with nature*, in their contracts ; they are flesh and blood, and have their little vanities and wishes in the midst of the house of bondage, as well as their task-masters.”

"Sheridan enjoyed no slight reputation as a wit, but any one taking the trouble to analyze his manifestations in that way, will soon perceive that the wit of this remarkable individual almost always consists of comparisons, or contrasts of proportion, position, objects, and events, with little or no reference to their attributes or inherent properties. For instance, he compares a tall thin man with a short fat wife, to a church and steeple; beaux flirting with a lady seated in a very high carriage, to supporters hanging half way up the door; a tall thin man, to a tree run up against a wall; and such an one with his arms spread, to a cross on a Good-Friday bun."

"As, therefore, in the works of individuals noted for the large developement of Wit, we find a peculiar tendency to dwell on the essential properties of things, and, at the same time, in some of them an equal tendency to ridicule all fancy, philosophy, and reasoning, wherein there appears neglect or ignorance of these attributes;—as we are not aware of any other organ which can include perceptions of this nature in its function;—and as the inherent properties of the constituent parts of creation seem to be intellectual perceptions, equally distinct from those of condition or dependence as those of objects are from those of their position and physical properties;—there seems no slight probability for supposing the existence of some distinct organ for such perceptions; and, further, if we find them manifested strongly when the organ of Wit is large; if the peculiar wit and satire believed to be connected with the function of this organ is found to depend essentially on such perceptions; and if other kinds of wit—that of Curran and Sheridan, for instance—may exist with a moderate or deficient endowment of this organ; we shall be almost necessarily forced to the conclusion that perception of inherent properties does depend on the organ of Wit, unless it can be shown to exist powerful when the organ is feebly developed, which we have in vain looked for.

"It hence appears that the range of this faculty is far more extensive, and that it forms a much more essential ingredient, in our philosophic capacities than could be predicated from only observing its manifestations when acting along with Secretiveness, Self-Esteem, Combativeness, and Destructiveness, to produce irony, sarcasm, ridicule, and satire; or, with other intellectual powers, to sparkle in the sallies of wit. Directed towards man, it probably gives a tendency to investigate the real character, instead of resting content with observing appearances or actions, which seems to have been greatly the bent of Sterne's mind, and considerably so of that of Franklin. Taking the direction of Religion, it will inquire into the nature and attributes of GOD, as manifested in creation. Cowper affords an example of this, and Socrates may be also named. In physiology, primary or essential function, as distinct from modes of manifestation, and particular actions and directions, will be its aim. To the metaphysician it will impart a strong desire for ascertaining the nature and inherent powers of mind, and of creation in general. Phrenology, being an union of the two latter—the metaphysician and the physiologist—its founders will afford us a suitable illustration. In the bust of Dr. Gall the organ is represented much less developed than in that of Dr. Spurzheim; and the superiority of the latter in discriminating modes of manifestation and particular directions of the mental powers from the powers themselves, is familiar to all phrenologists. Perhaps, too, we shall not err in adducing Locke as a negative instance of the faculty. In the portraits of this philosopher, Comparison and Causality appear greatly larger than Wit; and his system derives not only ideas, but the mental feelings, from external impressions; but as he was obliged to give the mind a capability of being affected by impressions on the external senses, he endowed it with the faculties of perception, contemplation, memory, comparison, and abstraction, which are in reality but modes of activity, not inherent powers. His grounds for denying the innateness of ideas were their non-manifestation, or various modifications in different individuals, from which it would seem that modes of being were to him in lieu of innate powers.

"It has been supposed that the organ of Wit gives a tendency to view every thing in a ludicrous light; but if the ideas here proposed concerning its function prove correct, such a supposition must be untenable; and that it is so, in point of fact, may be shown by reference to nature. The masks of Drs. Cullen, Franklin, and Spurzheim, exhibit a greater developement of the organ than do those of Curran, Swift, and Sheridan. And further, let any one appeal to his own private friends in whom the organ is largely developed, and ask whether they are not oftener pained than pleased by things of opposite and unharmonizing nature brought into unnecessary contact; and, on the other hand, delighted by harmonies between the properties or attributes, whether real or imaginary, of different objects."

"It seems that almost all amusing wit consists in a slight resemblance addressed to the function of one organ, and at the same time a difference to that of another,—thus coming still nearer to Mr. Scott's theory of laughter than his own view of wit could do. For, if there were distinct organs to perceive resemblance and difference, each would be *similarly* excited by the specimens of wit; but if these be modes of activity common to all the intellectual powers, then one of them is agreeably excited by the similarity, and the other jarred by the contrast, producing *different states* of excitement. We say "jarred," because the more any organ is developed, the more are similarities and harmonies between its perceptions sought after; Tune, Color, and Number, for example."

I present these different views, because they are ingenious; but the facts adduced are much too few for forming a judgment on the question. Mr. Watson's observations are highly interesting, but considerable difficulties attend them. In Sheridan, Individuality and Eventuality are by much the predominant intellectual organs, but Wit is also moderately developed; and his manifestations are in exact correspondence with Dr. Spurzheim's views;—namely, his elementary ideas are drawn chiefly from Individuality and Eventuality, and they receive a coloring from Wit, which renders them ludicrous; but they do not partake very highly of this quality, and in their nature they differ from the witty manifestations of Sterne and Voltaire, in whom large Causality was combined with large Wit. I am acquainted with two individuals in both of whom Individuality and Eventuality are large ; but in the one Wit is small, and in the other rather large, and the former almost never intentionally presents witty combinations of ideas, while the latter is prone to do so, as a habitual disposition of mind, without study or intention. This case also is in harmony with Dr. Spurzheim's doctrine.

When this organ large is combined with much Combativeness and Destructiveness, it leads to satire. It gives the talent also for epigrams. Persons in whom it is small, if their predominating faculties be grave, regard Wit as impertinence, and are apt to be offended by it. It is greatly aided by Individuality, Eventuality and Comparison, which furnish intellectual materials which it invests with a ludicrous appearance.

I include Wit among the sentiments in the present edition, with a view to preserve uniformity with Dr. Spurzheim in the numbering of the organs with reference to the bust. Dr. Spurzheim, in the dissection of the brain, shows that, anatomically, Ideality and Wit belong to the same department of convolutions ; whence a presumption arises of their functions belonging to the same class of mental faculties ; and as Ideality has been uniformly regarded as a sentiment, Wit may with propriety be placed under the same head. Mr. Watson has been led to regard Ideality also as an intellectual power ; but his ideas are not sufficiently matured for publication. It will be observed, that all these differences relate to the metaphysical analysis of the faculty, and that phrenologists are agreed on the fact, that witty and mirthful manifestations are connected with the organ now under consideration. The organ, and its general functions, therefore, are regarded as ascertained.

21.—IMITATION.

Dr. Gall gives the following account of the discovery of this faculty and organ. One day, a friend with whom he conversed about the form of the head, assured him that his had something particular, and directed his hand to the superior-anterior region of the skull. This part was elevated in the form of a segment of a circle; and behind the protuberance there was a depression. Before this time Dr. Gall had not observed this conformation. This man had a particular talent for imitation. Dr. Gall immediately repaired to the institution of the deaf and dumb to examine the head of the pupil Casteigner, who only six weeks before had been received into the establishment, and, from his entrance, had attracted notice by his amazing talent for mimicry. On the *mardi-gras* of the Carnival, when a little play was presented at the institution, he had imitated so perfectly the gestures, gait, &c. of the director, inspector, physician, and surgeon of the establishment, and above all of some women, that it was impossible to mistake them. This exhibition was the more amusing, as nothing of the kind was expected from this boy, his education having been totally neglected. Dr. Gall states, that he quite unexpectedly found the part of the head in question as fully developed in this individual as in his friend Hannibal, just mentioned.

Is the talent for mimicry, then, said Gall, founded on a particular faculty and organ? He sought every opportunity of multiplying observations. He visited private families, schools, &c., and everywhere examined the heads of individuals who possessed a distinguished talent for mimicry. At this time, Mons. Marx, secretary to the minister at war, had acquired a great reputation, by several characters which he played in a private theatre. Dr. Gall found in his head the same part of the head swelling out as in Casteigner and Hannibal. In all the other persons whom he examined, he found the part in question more or less elevated in proportion to the talent for imitation which they possessed. It is told of Garrick, says Dr. Gall, that he possessed such an extraordinary talent for mimicry, that, at the court of Louis XV., having seen for a moment the King, the Duke D'Aumont, the Duke D'Orleans, and Messrs. D'Aumont, Brissac, Richelieu, Prince Soubise, &c. he carried off the manner of each of them in his recollection. He invited to supper some friends who had accompanied him to court, and said, "I have seen the court only for an instant, but I shall show you the correctness of my power of observation, and the extent of my memory;" and placing his friends in two files, he retired from the room, and instantly returning, his friends exclaimed, "Ah! behold the King, Louis XV. to the life." He imitated in succession all the other personages of the court, who were instantly recognised. He imitated not only their walk, gait and figure, but also the expression of their countenances. Dr. Gall, therefore, easily understood how greatly the faculty of Imitation would assist in the formation of a talent for *acting*; and he examined the heads of the best performers at that time on the stage of Vienna. He found the organ large in them all, namely, in Müller, Lange, Brockmann, Schræder, Bauman, Koch, and his daughter. He got the skull of Jünger, a poet and comedian, and he afterwards used it to demonstrate the organ. Subsequently, he and Dr. Spurzheim, in their travels, met with many confirmations of the organ; in particular, in the house of correction at Munich, they saw a thief who had this organ large. Dr. Gall said he must be an actor: surprised at the observation, he acknowledged that he had for some time belonged to a strolling company of players. This circumstance was not known in the prison when Gall made the observation. On these grounds, Dr. Gall conceived himself justified in admitting the existence of a particular talent for imitation; that is to say, a faculty which enables the possessor in some degree to personify the ideas and sentiments of others, and to exhibit them exactly by gestures; and he considered this talent to be connected with the particular organ now pointed out.

This organ contributes to render a poet or author dramatic, such as Shakspeare, Corneille, Moliere, Voltaire, &c. It is large in the portraits of Shakspeare, and also in the bust of Sir Walter Scott, whose productions are strongly characterised by their dramatic scenes.

This faculty produces the talent for imitation alone; and Mr. Scott has observed, that, in perfect acting, there is more than imitation. There is expression of the propensities and sentiments of the mind in all the truth and warmth of actual and natural excitement; and this power of throwing real expression into the outward representation he conceives to depend upon Secretiveness. Thus, says Mr. Scott, a person with much imitation and little Secretiveness, could represent what he had seen, but he would give the externals only in his representation ; add Secretiveness, and he could then enter into any given character as it would appear if existing in actual nature : he could, by means of this latter faculty, call up all the internal feelings which would animate the original, and give not a copy merely, but another of the same,—a second edition, as it were, of the person represented. In this analysis of acting, perhaps, too much influence is ascribed to Secretiveness, and too little to Imitation : My own opinion, as expressed on p. 184, is, that Secretiveness produces chiefly a restraining effect, and that Imitation enables its possessor to enter into the spirit of those whom it represents.

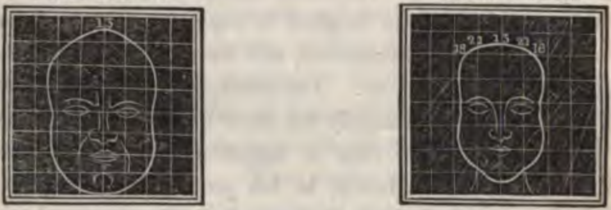
While, however, Secretiveness and Imitation together may thus be regarded as general powers, without which no talent for acting can be manifested, it is proper to observe, that the effect with which they can be applied in representing particular characters, will depend on the degree in which other faculties are possessed in combination with them. They confer on the individual only the capacity of applying, in this particular way, the whole other powers of the mind, so far as he possesses them ; but they do not supply the want of these powers. For example ; an actor destitute of *Tune*, however highly he may be endowed with Secretiveness and Imitation, could not imitate Catalani, or, what is the same thing, perform her parts on the stage ; and neither could an individual possessing little *Combativeness* and *Destructiveness*, represent with just effect the fiery *Coriolanus;* because the natural language of indignation can no more be called up by Secretiveness and Imitation, without Combativeness and Destructiveness, than melody without the aid of Tune. Hence, to constitute an accomplished actor, capable of sustaining a variety of parts, a general full endowment of the mental organs is required. Nature rarely bestows all these in an eminent degree on one individual; and, in consequence, each performer has a range of character in which he excels, and out of which he is nothing ; and I have found, by repeated observations, that the lines of success and failure bear a decided reference to the organs fully or imperfectly developed in the brain. Any one may easily put this observation to the test of experiment. Actors incapable of sustaining the dignity of a great character, but who excel in low comedy, will be found deficient in *Ideality;* while, on the other hand, those who tread the stage with a native dignity of aspect, and seem as if born to command, will be found to possess it largely developed; and also *Firmness*, *Self-esteem*, and *Love of Approbation*. It does not follow, however, from these principles, that an actor, in his personal conduct, must necessarily resemble most closely those characters which he represents to the best advantage. To enable an individual to succeed eminently in acting *Shylock*, for example, *Firmness*, *Acquisitiveness* and *Destructiveness*, are reckoned indispensable; but it is not necessary, merely because *Shylock* is represented as deficient in Benevolence, Justice, Veneration, and Love of Approbation, that the actor also should be so. The general powers above referred to, although they do not supply the place of deficient faculties, are quite competent for the time to suppress the manifestations of opposite sentiments. Hence, in his proper character, he may manifest in the highest degree the moral sentiments; and yet, by shading these for the time, by the aid of Secretiveness, and bringing into play only the natural languages of the lower propensities, which also we suppose him to possess, he may represent a scoundrel to the life.

This faculty is indispensable to the portrait painter, the engraver, the sculptor; and, on examining the heads of Mr. Douglas, Mr. Joseph, Mr. Uwins, Mr. W. Allan, Mr. James Stewart, Mr. Selby the ornithologist, and Mr. Lawrence Macdonald, I found it large in them all. Indeed, in these arts, it is as indispensable as Constructiveness. It also aids the musician and linguist, and, in short, all who practise arts in which expression is an object.

Imitation gives the tendency to express by gestures the thoughts and feelings of the mind, and hence is requisite to the accomplished orator. In private life, some individuals accompany their speech with the most forcible and animated expressions of countenance, the nascent thought beams from the eye, and plays upon the features, before it is uttered in words;—this is produced by much Imitation, Secretiveness, and Ideality.

This organ is possessed by some of the lower animals, such as parrots and monkeys, which imitate the actions of man.

When this organ and that of Benevolence are both large, the anterior portion of the coronal aspect of the head rises high above the eyes, is broad, and presents a level surface, as in Miss Clara Fisher, who, at eight years of age, exhibited great talents as an actress. When Benevolence is large, and Imitation small, there is an elevation in the middle, with a rapid slope on each side, as in Jacob Jervis. The organ is large in Raphael. It is regarded as ascertained.


Jacob Jervis.

Clara Fisher.

In both of these figures the head rises to a great height above the eyes; but in Jervis it slopes rapidly on the two sides of 13, Benevolence, indicating Imitation deficient; whereas in Miss Clara Fisher it is as high at 21 Imitation, as at Benevolence, indicating both organs to be large.

ORDER II.—INTELLECTUAL FACULTIES.

THESE faculties communicate to man and animals knowledge of their own internal sensations, and also of the external world; their object is to know existence, and to perceive qualities and relations. They consist of three genera; the first genus includes the Five Senses; the second, those powers which take cognizance of external objects and their relations, named Knowing or Perceptive Faculties; and the third, the faculties which trace abstract relations, and reason or reflect.

GENUS I.—EXTERNAL SENSES.

BY means of the Five Senses, man and animals are brought into communication with the external world. Dr. Spurzheim, in his "New Physiognomical System," and, in his recent work "Phrenology," gives admirable treatises on the senses; of which I avail myself largely in the following pages.

The opinions entertained by philosophers in regard to the functions of the senses, have been whimsical, extravagant, and contradictory. Since the time of Bacon and Locke, the greater number of philosophical systems rest on the axiom of Aristotle, that all ideas come into the mind by means of the external senses. According to this notion, he who possesses them in the highest state of perfection, is able to manifest most powerfully the faculties of the mind; or, in other words, the faculties, both of man and animals, ought to be proportionate to the perfection of the five senses, and to the education bestowed upon them. Daily experience, however, contradicts this hypothesis.

Philosophers of another class maintain, that the mind acts independently of all organization, and that the senses, instead of being instruments of action, are rather impediments to it. They complain much of the illusions of the five senses; and despise all testimony, and all conclusions grounded upon sensation. Such notions are unworthy of being refuted.

A great many philosophers have also attributed to the external senses many acts which are performed by the internal faculties alone. For instance, Helvetius has said, that man owes his arts to the structure of his hands; and that, if the hoof of the horse had been joined to the human arm, he would have been still wandering wild in the woods. But many animals have instruments equally curious and perfect in their structure as those to which peculiar capacities of mind have been attributed in man; and yet these instruments do not produce in them the corresponding functions. Monkeys have hands almost as nicely formed as those which are attached to the human arm; but, do monkeys put wood upon the fire to support combustion? or, do they construct works of art? According to this opinion, also, insects, craw-fish, lobsters, and still more the cuttle fish, ought to have exact ideas of extension, of size, and of the theorems of geometry, in consequence of their numerous and perfect organs of touch.

In point of fact, however, the external instruments are often similar, while the functions performed by them are quite different. The hare and rabbit have similar feet; yet the hare lies on the surface of the fields, while the rabbit burrows under ground. We have also examples of similar functions observed in animals which have instruments quite different. The proboscis is to the elephant what the hand is to man and to the monkey. The hands of monkeys, and the feet of parrots and squirrels, are certainly different; yet, by means of these instruments, they all move their food to their mouths in eating. In order to dig up truffles, the hog ploughs the earth with his snout, and the dog scratches it with his feet.

Other philosophers, again, have taught, that the functions of the senses are not ordained by nature, but acquired by experience. For example, the metaphysicians have written much about the *rectification* of the sense of sight, by means of touch; and about what they call the *acquired perceptions* of sight.

Each sense, however, performs its functions in consequence of its own innate constitution alone, and the relations of every sense to external impressions are determinate, and subjected to positive laws. If an odor make an impression upon the olfactory nerve, the impression is immediately found to be agreeable or disagreeable; and this feeling arises from the constitution of the sense, and the relation established betwixt it and the odorous particles which excite it to activity. The functions of every sense depend only on its peculiar organization; and hence no preceding exercise or habit is necessary, in order to acquire the special power of any sense. If the organization be perfect, the functions are perfect also; and if the organization be diseased, the functions are deranged, notwithstanding all preceding exercise. If the optic apparatus be perfect in newly hatched birds, their sight is perfect; as is the case with chickens, ducks, partridges, and quails: If, on the contrary, at the first entrance into life, the organization of the eyes or the ears be imperfect, the power of the animal to see or hear is proportionally deficient. In adult persons, vision is deranged if the eyes be diseased. In old persons, the functions of the five senses lose their energy, because the vital power of the organs is diminished.

It is indeed ridiculous to suppose that Nature should have produced any sense which could not perform its functions, without being supported by another and a different sense:—that, for example, we should not be able to see without feeling, or to hear without seeing. Hence the propositions appear self-evident,—that no sense acquires its functions by means of any other sense, and that any *one* sense cannot be the instrument of producing the sensations experienced by means of *all* the senses collectively. But we must observe, that different senses may enable us to perceive the same object; and that one sense is more fitted than another to make us acquainted with different objects, and their qualities. For example, we may obtain a conception of the figure of a book, by means of the sense of touch, and also by means of the sense of sight.

Each sense, as already observed, is subject to its own positive laws. For example, we see, according to the laws of the refraction of light; and hence, a straight rod half plunged in water appears crooked, although touch proves that, in this situation, the rod continues straight.

This is a kind of rectification; but it must not be confounded with the doctrine which maintains that one sense acquires its functions by means of the rectification of another sense. Touch may show, that a rod which is plunged in water, and looks crooked, is straight; but the eyes will see it crooked as before. The rectifications, thus effected by the senses, are mutual, and not the prerogative of one sense. In this view, the eyes may rectify the sense of touch. If, without our knowledge, a piece of thin paper be placed betwixt one of our fingers and the thumb, we may not *feel*, but we may *see* it. Even smell and taste may rectify the senses of seeing and of touch. Thus, many fluids *look* like water; and it would be impossible to discover them to be different substances by the sense of touch; but it is easy to do so by smell and taste. Thus each sense has its peculiar and independent functions, and each is subject to positive laws. But every sense also perceives impressions of which another is not susceptible; and it is in consequence of this circumstance that the external senses rectify one another; or rather produce, by their co-operation, an extent of accurate conception, which, in an unconnected state, they would have been incapable of producing.

It is a task of considerable difficulty to point out accurately the precise limits of the functions of the senses, because, in every act of perception, their instrumentality is combined with that of the internal faculties of the mind; and it is not easy to discriminate to what extent the act depends upon the one, and to what extent upon the other. For the elucidation of this point, I submit the following considerations to the attention of the reader.

The senses themselves do not *form ideas.* For example, when an impression is made upon the hand, it is not the organs of touch which form the conception of the object making the impression; but the nerves of feeling in the hand receive the impression, communicate it to the brain, and a *faculty of the mind* perceives the object. Without the nerves of feeling, the internal faculty could not experience the perception; because the medium of communi cation betwixt it and the object would be wanting. But neither could the hand experience the perception without the instrumentality of the internal faculty, because the nerves of *feeling* do not perform the function of perception.

Hence, previous to every perception, there must be an impression on the organs of sense; and the function of these organs appears to consist in receiving and transmitting this impression to the brain and internal faculties. The nature of the impression depends on the constitution of the senses, and on the relations established betwixt them and external objects; and, as it is absolutely impossible for the human will to change either the constitution of the senses, or the relations betwixt them and the external world, it is clearly absurd to speak of acquired impressions.

But, as the senses are constituted with a determinate relation to external objects, so the brain and internal faculties are constituted with a determinate relation to the organs of sense. In virtue of the first relation, a certain object makes a certain impression; and, in virtue of the second, a certain impression gives rise to a certain perception; and both depend on nature, and not on the will, nor on exercise or habit.

But we must distinguish betwixt the perceptions we experience of external objects, and the inferences concerning their qualities, which we draw by reasoning from these perceptions. All those ideas which are pure perceptions are formed intuitively, on the presentation of objects fitted to excite them. Inferences from these, on the other hand, are the result of our reasoning powers. What are sometimes called "acquired perceptions," are merely *habits of reasoning*, from the impressions naturally made on the senses; and these habits are just as much a part of our *nature* as the original perceptions. It appears to me, that the visible and tangible appearances of bodies are simple perceptions, because, after the amplest experience of some of these being deceitful, we cannot, in the slightest degree, alter our perceptions of them. For example, a rod half immersed in water, appears crooked, in defiance of every endeavor to see it straight. When we stand three or four yards distant from a mirror, and perceive our image in it, we cannot, by y efforts, succeed in perceiving the image as if formed on the rface of the mirror, although we know perfectly that it is so. It ppears always at the same distance behind the surface as we are efore it. If a picture be painted according to the rules of perspective, and the laws of optics, so as to represent a vista in the country, or a long street in a city, we are altogether incapable, when in the proper position for viewing it, of perceiving the surface to be plain. The picture appears to us to represent objects at different distances, and the most determined resolution to see them all equally near, is of no avail, although we know that, in point of fact, they are so.

If, previous to experience, all objects seen by the eye appear only as of different colors and shades, and all equally near, although really at different distances; and if we learn by experience only, that this natural appearance is deceitful, and that, in point of fact, one object is near and another distant; I cannot perceive a reason why we might not learn by experience also, to perceive pictures as plain surfaces, and images as if formed on the surfaces of mirrors; and, in short, to get quit altogether of the illusions of optics. If it be easy to acquire, by habit, the power of perceiving objects as at different distances, which naturally appear to the eye, as all equally near, it ought to be no difficult matter to learn by experience, to perceive a surface to be plain which really is so, [illegible] we are certain of the fact; and yet, I have never heard of a person who had made such an acquisition. [illegible] whatever impressions we are unable to recall, must, for the same reason, depend on the senses alone.

These principles will be best elucidated by examples. For instance, when a bell has been rung in our presence, and ceased, the sound cannot be recalled by an effort of the will; because its existence depended on the apparatus of the ear being in a certain state of excitation, which cannot be reproduced by an act of volition. Hence sound belongs to the ear alone. But if an individual is endowed with the internal faculty of Tune, and if a piece of music be played over in his presence, then, after the sound of the instrument has ceased, although he cannot recall that noise, he can with facility reproduce the internal impressions which the notes made upon his mind; in short, he can enjoy the tune internally anew, by an act of recollection. The power of experiencing the perception of melody, and of enjoying the impressions which it makes, appears, therefore, to depend on the internal faculty of Tune, while the sound alone depends upon the ear. Hence the perfection of the power of perceiving melody in any individual, is not in proportion to the perfection of the external ear alone, but in joint proportion to the perfection of that organ, and the internal faculty. Without the external ear the internal faculty could not receive the impressions; but the external ear could never of itself produce the perceptions of melody. Accordingly, we see every day that many individuals enjoy the sense of hearing unimpaired, who have no perception of melody. The same principles applied to the other senses will point out distinctly the precise limit of their functions. We may take an example from the sense of touch. If we embrace a square body with the hands, certain impressions are made on the nerves of touch, called Sensations, in consequence of which the mind forms an idea of the figure of the body. Now, we can recall the conception of the figure; but not the sensation which excited it. The conception, therefore, depends on an internal faculty; the sensation on the nerves of touch. The functions of the nerves of touch appear to produce the sensation; but the power of conceiving is not in invariable proportion to the power of feeling, but in proportion to the perfection of the internal faculty and the external senses jointly. The perception, however, depends as entirely on nature as the sensation; and the power of perceiving the form of the body is not acquired by experience.

Dr. Spurzheim observes on this head, that, where the *same ideas* are acquired by the instrumentality of *two* or more senses, the ideas cannot possibly be formed by the *senses*, because Nature, so far as man has discovered, never endows *different instruments* with the *same functions*, in the same individual. For example, we can acquire ideas of Form by the instrumentality of the sense of Sight, and likewise by means of Touch. Now, from this circumstance alone, it is evident that the conception of figure is formed, not by the eyes, or by the nerves of Feeling, because this would be an instance of two separate senses performing the same functions; but by an internal faculty, which perceives Figure, in consequence of impressions made on either of these two different senses. The impressions made upon the eye are totally different from those made upon the nerves of Touch, but the internal faculty is adapted by nature to both; and hence the same perceptions are experienced by means of the same faculty, although through the instrumentality of different media; but the same function is not performed by distinct senses.

These views of the functions of the senses are illustrated and confirmed by the phenomena which take place when the organs of Sense are diseased. For example, when the Ear becomes inflamed, it often happens that spontaneous sensations of sound are experienced; when too much blood flows into the Eye, impressions, like those of light, are felt; when the nerves of Taste become diseased, disagreeable savors are experienced; when the nerves of Touch are excited by internal causes, a tickling or disagreeable sensation is felt; when the muscular system is relaxed by nervous diseases, and flying spasms occur over the body, impressions occasionally arise from these spasmodic affections, so precisely resembling those of touch, that the individual is at a loss to distinguish them.

There is reason to conjecture that particular parts of the brain receive the impressions transmitted by the different external senses, and that it is by their instrumentality that the gourmand for instance recalls the flavor of a particular dish. He cannot reproduce the part of the sensation which depends on the activity of the nerves of taste, but he can recall all that is mental in the perception, or that depends on the activity of any part of the brain.

Every one is acquainted with the ridiculous theories which have been framed by philosophers, to account for the phenomena of perception. Aristotle taught, says Dr. Reid, "That, as our senses cannot receive external material objects themselves, they receive their species, that is, their images or forms without the matter, as wax receives the form of the seal, without any of the matter of it."* The Platonists differed from Aristotle in maintaining, "That there exist *eternal and immutable ideas*, which were prior to the objects of sense, and about which all science was employed." They agreed with him, however, as to the manner in which these ideas are perceived. Two thousand years after Plato, Mr. Locke represents our manner of perceiving external objects, by comparing the understanding "to a closet, wholly shut from light, with only some little opening left, to let in external visible resemblances or ideas of things without." The notion of all these philosophers was, that, from the existence of these images or ideas, the mind inferred, by a process of reasoning, the existence of the external objects themselves.

Dr. Reid refuted, by a very simple process, these doctrines. He pointed out merely the fact, that the mind is so formed, that certain impressions, produced by external objects, on our organs of sense, are followed by certain sensations; and that these sensations are followed by perceptions of the existence and qualities of the bodies by which the impressions are made; and that all the steps of this process are equally involuntary and incomprehensible.

It will at once be perceived, that the doctrine here laid down regarding the functions of the senses, corresponds precisely with the philosophy of Dr. Reid.

The organs of each sense are double; and yet the consciousness of all impressions experienced by the mind is single. Various theories have been propounded to account for this fact; but none of them are satisfactory. Dr. Gall ventured to give an explanation different from all these. "He distinguishes two states of activity in the organs of the senses, calling one active, the other passive. The functions are passive, if performed independently of the will; the eye, for instance, necessarily perceives the light which falls upon it, and the ear, the vibrations propagated to it. Now, we perceive *passively* with both organs, says he; we see with both eyes, hear with both ears, but the active state is confined to one organ, and commonly to the strongest. We see with both eyes at the same time, but we look with one only; we hear with both ears, we listen only with one; we feel with both hands, we touch with but one, &c.

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* Essay on Intellectual Powers, p. 25.

"There is no doubt that we look with one eye only. In placing a pencil or any other thin body between us and a light, keeping both eyes open, and throwing the axis of vision, the stick, and the light, into a right line, did we look with both eyes, the pencil should occupy the diagonal, and its shadow fall on the nose. But this always falls on one eye, on that which the person, who makes the experiment, ordinarily uses in looking with attention. If the pencil be kept in the same position, and the eye not employed in looking be shut, the relative direction of the objects will seem to remain the same; but if he shut the eye with which he looked, it will be altered, and the pencil will appear removed far from its former place. Again, let any one look at a point but a little way distant, both eyes will seem directed towards it; let him then shut his eyes alternately. If he close the one with which he did not look, the other remains motionless; but if he shut that with which he looked, the other turns immediately a little inwards, in order to fix the point. Moreover, the eyes of many animals are placed laterally, and cannot both be directed at once to the same object. Finally, the gestures of man and animals prove that they look with one eye, and listen with one ear; for they direct one eye or one ear towards the object to be seen or heard.*

"Notwithstanding what has been said, Dr. Gall's explanation seems to me," says Dr. Spurzheim, "little satisfactory. Indeed, it is very remarkable, that passively, we perceive, at the same time, the impressions of both organs of any sense, not only if one, but also if different, objects impress the two. Even different impressions of different objects may be perceived by both organs of two senses at once. We may, for instance, with both eyes see different objects at the moment that with both ears we hear different sounds. As soon as we are attentive, however, as soon as we look or listen, we perceive but one impression. It is impossible, therefore, to attend to two different discourses at once. The leader of an orchestra hears passively all the instruments, but he cannot be attentive except to one. The rapidity of mental action deceives several, and makes them think it possible to attend to different objects at the same moment. It follows that there is a difference between the active and passive state of the senses; but whether this difference suffices to explain the single consciousness of every sense is another question; I think it does not.

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* Dr. Spurzheim's Phrenology, p. 251.

"First, this explanation would only apply to functions in their active, not at all in their passive state; and the cause of single consciousness must be the same in both. Further, the active state is not produced by the external senses themselves, any more than voluntary motion by the mere muscles. Some internal power renders the senses active; they themselves are always passive, and merely propagate external impressions; they appear active only, when something internal employs them to receive and to transmit impressions to the brain. It is therefore probable, that the internal cause which excites only a single organ of the external senses to activity, is also the cause of the single consciousness of different impressions. Dr. Gall's explanation of single consciousness is consequently not only grounded upon an inaccurate notion, but would be far from satisfactory, were the supposition even true."*

The mind has no consciousness either of the existence of the organs of sense, or of the functions performed by them. When the table is struck, and we attend to the subject of our own consciousness, we perceive the impression of a sound; but by this attention we do not discover that the impression has been experienced by the instrumentality of any organ whatever. Hence the perceptions of the mind are always directed to the objects which make the impressions, and not to the instruments by means of which the impressions are experienced. The instruments perform their functions under Nature's care; and, as has been already observed, are not subject to the will. We should have been distracted, not benefited, by a consciousness of their internal action, when they perform their functions. It is when they become diseased that we become conscious of their action, and then the consciousness is painful. Every one must be sensible of this fact, whose eyes or ears have been diseased.

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* Lib. cit. p. 223.

Dr. Spurzheim observes, that "the brain seems to be necessary to every kind of perception, even to that of the immediate functions of the external senses; but it is not yet ascertained, though it is probable, that one fundamental power, inherent in a particular part of the brain, knows and conceives as sensations, all the varied impressions made on the external senses. Some phrenologists think that each external sense has a peculiar portion of brain for this end, and that the combined action of its nerve and of this cerebral part, is necessary to the accomplishment of its functions. That the nerve of taste and a portion of brain, for instance, are necessary to perceive savors; the olfactory nerve and a cerebral part, to distinguish odors, &c. I do not believe that consciousness happens without brain, but I see no reason to surmise that the immediate functions of each external sense require a particular portion of the brain, in order to be recognised as determinate sensations." (Dr. Spurzheim's Phrenology, p. 289.)

After these general considerations, which apply to all the external senses, a few words may be added on the specific functions of each sense in particular.

FEELING OR TOUCH.

Dr. Spurzheim inferred, from pathological facts, that the nerves of motion must be distinct from the nerves of feeling; and subsequent experiments have proved his inference to be well founded. This subject has been treated of on page 54. The sense of feeling is continued, not only over the whole external surface of the body, but even over the intestinal canal. It gives rise to the sensations of pain and pleasure; of the variations of temperature; and of dryness and moisture. These cannot be recalled by the will; and I therefore consider them as depending on the sense alone. The impressions made upon this sense serve as the means of exciting in the mind perceptions of figure, of roughness and smoothness, and numerous other classes of ideas; but the power of experiencing these perceptions, is in proportion to the perfection of certain internal faculties, and of the sense of touch jointly, and not in proportion to the perfection of this sense alone.

TASTE.

THE functions of this sense are, to produce sensations of taste alone; and these cannot be recalled by the will. We may judge of the qualities of external bodies, by means of the impressions made on *this* sense; but to form ideas of such qualities is the province of the internal faculties.

SMELL.

BY means of smell, the external world acts upon man and animals from a distance. Odorous particles are conveyed from bodies, and inform sentient beings of the existence of the substances from which they emanate. The functions of smell are confined to the producing of agreeable or disagreeable sensations, when the organ is so affected. These cannot be reproduced by an effort of the will. Various ideas are formed of the qualities of external bodies, by the impressions which they make upon this sense; but these ideas are formed by the internal faculties of the mind.

HEARING.

In new-born children, this sense is not yet active; but it improves by degrees, and in proportion as the vigor of the organ increases. It is a very common opinion, that music, and the faculty of speech, are the result of the sense of hearing; but this notion is erroneous.

As already mentioned, the auditory apparatus being excited to activity by an external cause, produces only the impression of sound: and here its functions terminate. If, besides, the faculty of Tune is possessed by any individual, melody in sounds is perceived by that faculty. If the faculty is not possessed, such perceptions cannot exist. Hence, among birds, the female hears as well as the male; and yet the song of the male is very much superior to that of the female. Among mankind, also, many individuals hear, and yet are insensible to melody. Thus, both in man and other animals, there is no proportion betwixt the perfection of hearing, and the perfection of the power of perceiving melody. If it were part of the functions of the auditory apparatus to give the perception of melody, how does it happen that, in one individual, the apparatus can perform only one-half of its functions, while in others it performs the whole? This is not like Nature's work. Finally, hearing cannot produce music; because the auditory apparatus is excited only by sounds, which are already produced. The first musician began to produce music before he had heard it; and he did so from an internal impulse given by a faculty of the mind. Singing-birds, moreover, which have been hatched by strange females, sing naturally, and without any instruction, the song of their species, as soon as their internal organization is active. Hence the males of every species preserve their natural song, though they have been brought up in the society of individuals of a different kind. Hence also musicians, who have lost their hearing, continue to compose. They possess the internal faculty; and it being independent of the auditory apparatus, conceives the impressions which different sounds naturally produce long after the ear has ceased to be capable of allowing these sounds to be experienced anew; hence, likewise, deaf and dumb persons have an innate sentiment of measure and cadence. Though, however, hearing does not produce music, yet, without an auditory apparatus, fitted to receive the impressions made by tones, melody could not be perceived; and, unless that apparatus had once been possessed, neither could melody be produced, because the individual *could* not judge of the impressions which the sounds he made were fitted to make upon those who hear.

It is a very common opinion also, that hearing alone, or hearing and voice jointly, produce the faculty of speech. This error will be refuted, by considering in what any language consists, and how every language is produced. Language has been divided into two kinds, natural and artificial. In both kinds, a certain sign is used to indicate to others certain feelings or ideas of the mind. Various motions of the body, and expressions of the countenance, indicate, the moment they are beheld, certain emotions and sentiments. In this case, the expression of the countenance, or the motion of the body, is a sign fitted by nature to excite in us the perception of the feeling. It is obvious, that the power of the sign, in this case, to excite the perception, does not depend either upon hearing or voice; for neither is employed in producing it: but that the effect is an ultimate fact of our constitution, which must be referred to the will of our Creator. Besides these signs, however, we make use of many others to communicate our thoughts, which have no original connexion with the things signified. For example, the word TABLE has no necessary connexion with the thing upon which I now write. How, then, does the word come to indicate the thing? The internal faculties first conceive the object: having done so, they wish to fix upon a sign by which that conception shall be always indicated again. They, therefore, *employ the voice* to make the sound which we express when we utter the word *table*. The thing itself being pointed out, and the sound being uttered at the same time, the meaning of it comes to be understood; and hence every time it is pronounced, the idea of the thing is suggested. But we are not to suppose that the auditory apparatus, or the organs of voice, conceive the dea of the table. This was done by the internal faculties alone; and these merely made use of the organs of voice as instruments for producing a sign. Hence the reason why monkeys do not speak is, not because they want the sense of hearing, and organs of voice, but because they have not certain internal faculties, which fix upon signs to indicate the conceptions formed by the mind.

The proper function, then, of the sense of hearing, is confined to the production of the impressions which we call sounds; yet it assists a great number of internal faculties.

The auditory nerve has a more intimate connexion with the organs of the moral sentiments, than with those of the intellectual faculties.

SIGHT.

THIS fifth and last of the senses, is the second of those which inform man and other animals of remote objects, by means of an intermedium; and the intermedium, in this instance, is Light.

This sense has been said to acquire its functions by touch or by habit. Bishop Berkley is supposed by the metaphysicians to have discovered the true theory of vision, and the result of his investigation is, "that a man born blind, being made to see, would not at first have any idea of distance by sight. The sun and stars, the remotest objects as well as the nearest, would all seem to be in his eye, or rather in his mind."—Stewart's Dissert. p. ii. 109. Dr. Reid, and many other philosophers, have written ingenious disquisitions, to show that our perceptions of distance, figure, and motion, are acquired. "Philosophy," says Mr. James Mill, "has ascertained that we derive nothing from the eye whatever but sensations of color; that the idea of extension in which size, and form, and distance are included, is derived from sensations not in the eye, but in the muscular part of our frame. How then is it that we receive accurate information, by the eye, of size and shape, and distance? By association merely." Analysis of the Phenomena of the Human Mind, vol. i. chap. iii. p. 73. These speculations have proceeded on the principle, that Nature has done little for man, and that he does a great deal for himself, in endowing himself with perceptive powers. But vision depends on the organization of the eye; and is weak or energetic, as the organization is imperfect or perfect. Some animals come into the world with perfect eyes; and these see perfectly from the first. The butterfly and honey-bee fly at the first attempt, through fields and flowery meadows; and the young partridge and chicken run through stubble and corn fields. The sparrow, on taking its first flight from the nest, does not strike its head against a wall, or mistake the root of a tree for its branches; and yet, previous to its first attempt at flight, it can have no *experience* of distance.

On the other hand, animals which come into the world with eyes in an imperfect state, distinguish size, shape, and distance, only by degrees. This last is the case with new-born children. During the first six weeks after birth, their eyes are almost insensible to light; and it is only by degrees that they become fit to perform their natural functions. When the organs are so far matured, however, the children see, without habit or education, as well and as accurately as the greatest philosopher.

Indeed, as has been formerly mentioned, the kind of perception which we enjoy by means of the eyes, is dependent solely on the constitution of the eyes, and the relation established betwixt them and the refraction of light. So little power has experience to alter the nature of our perceptions, that even in some cases where we discover, by other senses, that the visible appearance of objects is illusive, we still continue to see that appearance the same as before. For example, the greatest philosopher, standing at one end of a long alley of trees, cannot see the opposite rows equally distant from one another at the farthest end, as they appear to be at the end nearest to him, even after experience has satisfied him that the fact really is so. He must see according to the laws of perspective, which make the receding rows appear to approach; and there is no difference in this respect, betwixt his perceptions, and those of the most untutored infant. In like manner, the greatest philosopher, on looking into a concave spoon, cannot see his right hand upon the left side, and his left hand upon the right side, even after he has learned, by the study of the laws of optics, that the image of himself, which he sees in the spoon, is reversed.

So confident, however, is Mr. Stewart in the opinion that we learn to see, and do not see instinctively, that he says, "Condillac first thought that the eye judges *naturally* of figures, of magnitudes, of situations, and of distances. He afterwards was convinced that this was an error, and retracted it." Stewart adds, "nothing short of his own explicit avowal could have convinced me, that a writer of such high pretensions, and of such unquestionable ingenuity as Condillac, had really commenced his metaphysical career under so gross and unaccountable delusion." Mr. Stewart also expresses his surprise, that Aristotle should maintain that it is not from seeing often or from hearing often, that we get these senses; but, on the contrary, instead of getting them by using them, we use them because we have got them."

It is worth while to inquire on what grounds the metaphysicians maintain such extraordinary opinions. They are two: *first*, The fact that new-born children miss the object they mean to seize, and show clearly that they do not appreciate size, distance, and relative position accurately: *Secondly*, The fact that a blind man couched by Chesselden, on the first influx of light to the retina, saw all external objects as situated in his eye, and after a few weeks perceived distance and magnitude like ordinary persons. From these facts, the metaphysicians infer that the human being does not perceive distance, size and form instinctively, but learns to do so by experience. The answers are obvious. The eye in the child is not perfect till six weeks after birth. The eye newly couched is not a sound eye instantly, nor do the muscles and various parts which had lain dormant for thirty years, act with perfect effect at the first attempt, amid the irritation and torment of a painful operation; and, even admitting that the eye was perfectly sound, the internal organs which perceive the distance are not so. By disuse, every organ of the body becomes unfitted for the due performance of its functions. In civilized nations, the muscles of the external ear being prevented from acting during childhood, by the head-dress, not only lose all contractile power, but actually dwindle into nothing. In the savage state, the power of moving the ear is often as perfect in man as in the lower animals. The same unfitness for action is observed after long confinement of a limb for the cure of fracture, &c., and the muscles diminish in size. In the same way, during blindness, the organs which judge of color and distance never are called into action, and therefore become, to a certain degree, unable to execute their functions, and it is only by degrees that they acquire sufficient energy to do so.

Dr. Thomas Brown, whose acuteness I shall have frequent occasion to notice and to praise, admits that the lower animals perceive distance instinctively; and, although, on the whole, he agrees in the opinions of Berkley, Reid, and Stewart, yet he holds the opposite opinion, which the phrenologists maintain, as far from ridiculous. "It is," says he, "not more wonderful, *à priori*, that a sensation of color should be *immediately followed* by the notion of a mile of distance, than that the irritation of the nostril, by any very stimulant odor, should be immediately and involuntarily followed by the sudden contraction of a distant muscular organ, like the diaphragm, which produces, in sneezing, the violent expiration necessary for expelling the acrid matter."—Vol. ii. p. 69.

It is very true that Nature does not give us intuitive perceptions of the number of feet or inches at which any object is distant from us; because these are artificial measures, with which nature has nothing to do. But when two objects, equal in size, are presented to the eye, the one double in point of distance to the other, the mind has always an intuitive perception that they are not equally near, unless the external or internal organs, or both, are deficient or deranged.

What, then, are the true functions of the eye? No organ of sense *forms ideas*. The eye, therefore, only receives, modifies and transmits the impressions of light; and here its functions cease. Internal faculties form conceptions of the figure, color, distance, and other attributes of the objects making the impressions: and the power of forming these conceptions is in proportion to the perfection of the eyes and the internal faculties jointly, and not in proportion to the perfection of the eyes alone. Hence the lower brutes, although they have eyes equal in perfection to those of man, are not able to form the ideas of the qualities of bodies, which he forms by means of his internal faculties, through the instrumentality of the eye, because in them the internal faculties are wanting.

The senses may be exercised, and their powers greatly improved by exercise. The taste of the gourmand is more acute than that of the peasant; and the touch of the artisan than that of the ploughman.

GENUS II. — INTELLECTUAL FACULTIES WHICH PERCEIVE THE EXISTENCE OF EXTERNAL OBJECTS AND THEIR PHYSICAL QUALITIES.

THE faculties now to be treated of take cognizance of the existence and qualities of external objects. They correspond, in some degree, to the Perceptive Powers of the metaphysicians; and form ideas. Their action is attended with a sensation of pleasure, but (except in the case of Tune) it is weak, compared to the emotions produced by the faculties already treated of; and the higher the functions, the less vivid is the emotion attending their active state. In judging of the size of these organs, the rules laid down on pages 82. and 85. require to be particularly attended to.

22.—INDIVIDUALITY.

THIS organ is situated in the middle of the lower part of the forehead, immediately above the top of the nose. When large, it produces breadth and descent between the eye brows, at that part; when small, the eye-brows approach closely to each other, and lie in a horizontal line. The figure of King George III. shows the organ large; that of Curran moderate.

King George III.

Individuality, 22, large; and Form, 23, large

J. P. Curran.

Individuality, 22, moderate: Form small

In surveying the external world, we may observe, 1st, Objects simply as substances or existences, such as a rock, a horse, a tree, a man; these perceptions are designated by substantives; in the next place, the properties or attributes of things which exist, such as their form, size, weight, color, number; 3dly, their relations to other objects, such as their place and order of arrangement. After these perceptions, we may notice their active phenomena, the rock falls, the horse runs, the tree grows, the man walks; these actions are designated by verbs. As size, form, weight, and colors are adjuncts of physical existence, Time is an adjunct of action. Now, the faculty of Individuality observes objects which exist; it gives the notion of substance, and forms the class of ideas represented by nouns when used without an adjective, as rock, man, horse. We owe to Dr. Spurzheim the discovery of the organ, and analysis of its functions.

The faculty gives the desire, accompanied with the ability, to know objects as mere existences, without regard to their modes of action, or the purposes to which they may be subservient. Individuals in whom it is large, will observe and examine an object with intense delight, without the least consideration whence it has come, or to what it may be applied, a quality of mind which is almost incomprehensible to persons in whom the organ is small and Causality large. It prompts to observation, and is a great element in a genius for those sciences which consist in a knowledge of specific existences, such as natural history. It leads to giving a specific form to all the ideas entertained by the mind. A student in whom this organ is small, and the reflecting organs large, may have his mind stored with general principles of science, and with abstract ideas, but will experience much difficulty in reducing them into precise and specific forms. Another, in whom this organ is large, will have all his knowledge individualized; if he hear lectures or conversation in which general views chiefly are presented, he will render them specific for himself; but unless his reflecting organs also be large, he will be prone to miss the essential principle, to seize upon the most palpable circumstance attending it, and to embrace this as his conception of it. Such persons are learned, and owing to the store of facts with which their memories are replenished, to the great definiteness and precision of their ideas, and the readiness with which they command them, they often take a lead in public business; but if their reflecting organs are deficient, they show no depth or comprehensiveness of understanding; they do not advance the principles of science, and rarely acquire a permanent reputation.

In common life, this organ large, confers a talent for observation, curiosity to know, and aptitude for acquiring knowledge of details. The character of *Miss Pratt*, as drawn by the author of "Inheritance," a novel, is a personification of Individuality, when predominantly powerful, and not directed by higher faculties. "But people who make use of their eyes," says this author, "have often much to see, even between two doors; and in her progress from the hall door to the drawing room, *Miss Pratt* met with much to attract her attention. True, all the objects were perfectly familiar to her; but a real *looker*, like a great genius, is never at a loss for a subject — things are either better or worse since they saw them last — or if the things themselves should happen to be the same, they have seen other things, either better or worse, and can therefore either approve or disapprove of them. *Miss Pratt's* head then turned from side to side a thousand times as she went along, and a thousand observations and criticisms about stair-carpets, patent-lamps, hall-chairs, slab-tables, &c. &c.

&c. passed through her crowded brain.—At length *Miss Pratt* and *Mr. Lindsay* were announced, and thereupon entered *Miss Pratt* in a quick paddling manner, as if in all haste to greet her friends."—"*Miss Pratt* then appeared to her (*Gertrude*) a person from whom nothing could be hid. Her eyes were not by any means fine eyes—they were not reflecting eyes—they were not soft eyes—they were not sparkling eyes—they were not penetrating eyes; neither were they restless eyes, nor rolling eyes, nor squinting eyes, nor prominent eyes—but they were active, brisk, busy, vigilant, immovable eyes, that looked as if they could not be surprised by any thing—not even by sleep. They never looked angry, nor joyous, or perturbed, or melancholy, or heavy; but morning, noon, and night they shone the same, and conveyed the same impression to the beholder, viz. that they were eyes that had a look—not like the look of Sterne's monk, beyond this world—*but a look into all things on the face of this world*. Her other features had nothing remarkable in them; but the ears might evidently be classed under the same head with the eyes—they were something resembling rabbits'—long, prominent, restless, vibrating ears, for ever listening, and never shut by the powers of thought."

From communicating this talent of observation, Individuality greatly assists Imitation in promoting mimickry. The organ is large in Matthews, and it is obvious that accurate observation of the manners and appearances of men is a fundamental element in a talent such as his, of portraying on the stage living Individuals in their minutest peculiarities.

When the organ is deficient, the individual fails to observe objects that exist around him; he may visit a house, and come away without knowing what objects were in the rooms. Such a person walks in the streets, or through the country, and observes nothing. In short, although the external senses are in perfect health, owing to the feebleness of this observing power, they are not called into activity for the purpose of acquiring knowledge.

This organ, when large, prompts to discovery by observation. Persons so endowed do not seek to arrive at new truths by reasoning, but inquire at nature, at men, at books for information; and hence, many brilliant physical discoveries have been made by persons largely endowed with these and the other perceptive organs, whose reflecting faculties have not surpassed mediocrity. Since Bacon's rules of philosophizing have been duly appreciated and become fashionable, science has been extensively and successfully cultivated by a class of minds, which, while the method of speculative reasoning prevailed, was excluded from such pursuits. This class is composed of persons in whom the organ under consideration greatly predominates over those of the reflecting powers. Such individuals are constituted by nature to become observers; and natural history, particularly botany, anatomy, and even chemistry, are great departments of knowledge fitted for the exercise of their peculiar talent. The substance of these sciences consists in a knowledge of the existence, appearances, and properties of natural objects as *facts*; and we need not be surprised to meet with eminent professors in these branches, in whose heads the knowing organs predominate over the reflecting.

To the artist this organ is of great importance. It enables him to give body and substance to the conceptions of his other faculties, and confers on him a capacity for attending to detail. In the pictures of an artist in whose head Individuality is deficient, there is an abstractness of conception, and a vagueness of expression, that greatly detract from their effect. In the works of an individual in whom these organs are large, every object appears full of substance and reality; and if he paints portraits, the spectator will be so impressed with their Individuality, that he will be apt to fancy himself acquainted with the originals.

Persons who excel at whist, generally possess it and Eventuality large. If both of the organs be deficient, eminence will not easily be attained in this game.

This faculty gives the tendency to personify notions and phenomena, or to ascribe existence to mere abstractions of the mind, such as Ignorance, Folly, or Wisdom.

The organ was large in Sheridan, and it is large in Sir Walter Scott. It is small in the Scots in general; it is larger in the English, and still larger in the French.

The frontal sinus is generally present at the situation of this organ in adults, and this throws a difficulty in the way of judging of its size. The function, however, is ascertained, by observing young persons in whom the sinus is not formed, and by the negative evidence; that is, when externally part of the skull at the top of the nose is narrow, contracted, and depressed, the portion of brain below is necessarily small, and then the mental power is found invariably weak. This concomitance of large size and great power in young persons, and of deficiency of size and feebleness of power in all ages, proves the function; although in some individuals there is an external elevation caused by sinus, and not by brain, which is not accompanied with the corresponding organ in the mental faculty.

Established.

23.—FORM.

Dr. Gall was struck with the circumstance, that certain persons and animals recognise, with the greatest facility, individuals whom they have not seen for years, and even then only in passing. In himself, this faculty was weak; and frequently, on rising from table, he had no recollection of the person who had sat next to him, so as to be able to recognise him again in society, and he was, in consequence, exposed to many painful embarrassments and awkward mistakes. Being desired to examine the head of a young girl who had an extreme facility of distinguishing and recollecting persons, he found her eyes pushed laterally outward, and a certain squinting look: after innumerable additional observations, he spoke of an organ of the knowledge of persons.

The organs lie on the two sides of, and contiguous to, the *crista galli*. When small, the orbitar plate approaches close to the sides of the crest, and then the external width across the nose from eye to eye is small; when large, there is a considerable space betwixt the orbitar plate and the crest, and a great external breadth across the nose.

In some instances the frontal sinus is found at the situation of

this organ; but it very rarely leads to difficulty i
size. The organ was large in King George III.,
with his large organ of Individuality, it gave him th
talent for recollecting persons for which he was
is very moderately developed in Curran, and by
figures on page 357, it will be observed that the di
the eyes in King George III. at 23, is much
Curran.

Dr. Gall observes, that those individuals who nev
than a superficial attention on phenomena, and wh
reasonings, or at least sophisms, ready in explanatio
pretend that a deficiency, such as he experienced
persons, is owing to the eyes; that, in such cases,
distinct, or there is a squint. His personal exper
affords a refutation of this hypothesis; for he neve
and his vision was particularly acute and clear.*

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* Dr. Gall mentions, that, although he could neither paint n
able to seize with great facility the numerous forms of the head
is at variance with great deficiency in the organ of Form; bu
tenor of his observations, it appears that his power of disting
not so great as he imagined it to be. Dr. Spurzheim gives th
his reprint of the article Phrenology, in the 3d Number of the
Review:—"The phrenological faculties of Dr. Gall's infantil
viduality, Eventuality, and Causality in an eminent degree.

"It has been remarked as singular, that Dr. Gall should h
founder of this new science, whilst he could not recollect pe
though they had been near him at table, and since he coul
again to places, where he had been before; or, in phrenologic
had Form and Locality very small. Those who make that r
know the proceeding of Dr. Gall, nor understand the true m
phrenological denominations. Dr. Gall compared the size of
portions with certain talents or characters eminent in any wa
deficient in the power of perceiving size and its differences.
ty did not prevent him from making discoveries, any more
seeing certain colors hinders any one to cultivate geometry
general. Dr. Gall's deficiency in Form explains why he const
self to isolated elevations and depressions on the surface of th
to their general configuration, and left this rectification of
exertions; he, nevertheless, has the great merit of having disc
relations between cerebral developement and mental manifest

from three to five years of age have a great memory for persons. Some dogs, at the distance of years, recognise an individual whom they have only once seen, while others, after a few days' absence, do not know again persons whom they have seen frequently. Monkeys, dogs, horses, elephants, and even birds, distinguish, with greater or less facility, their master, or those who have been kind or cruel to them, among a thousand. All the animals which belong to a herd, and also all the bees in a hive, from 20,000 to 80,000 in number, know each other. When a stranger attempts to introduce himself, they drive him away, or kill him.*

Dr. Spurzheim has analyzed the mental power connected with the organ in question, and considers it in the following manner: "To me," says he, "there seems to exist an essential and fundamental power, which takes cognizance of configuration generally, and one of whose peculiar applications or offices is recollection of persons; for persons are only known by their forms. I separate the faculty which appreciates configuration from that of Individuality, since we may admit the existence of a being without taking its figure into consideration. Individuality may be excited by every one of the external senses, by smell and hearing, as well as by feeling and sight; while the two latter senses alone assist the faculty of configuration. It is this power which disposes us to give a figure to every being and conception of our minds; that of an old man, to God; to Death, that of a skeleton, and so on. The organ of configuration is situated in the internal angle of the orbit; if large, it pushes the eye-ball towards the external angle a little outwards and downwards. It varies in size in whole nations. Many of the Chinese I have seen in London had it much developed. It is commonly large in the French, and bestows their skill in producing certain articles of industry. Combined with Constructiveness, it invents the patterns of dress-makers and milliners. It leads poets to describe portraits and configurations, and induces those who make collections of pictures and engravings to prefer portraits, if they have it in a high degree. It is essential to portrait-painters. Crystallography also depends on it; and to me it appears that conceptions of smoothness and roughness are acquired by its means."* I have met with numerous facts, in proof of this faculty and organ. Phrenological Journal, vol. viii. p. 216, a case is recorded of a literary man who always associated a particular form with a particular proper name. He could never think of my name without calling up the figure of an urn.

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* Sur les Fonctions du Cerveau, tome v. p. 1, 2, &c.

A gentleman of this city, who had a passion for mineralogy from early youth, has a very large developement of this organ, as also of Comparison; and I have seen many children who were expert at cutting figures in paper possess it with the organs of Imitation and Constructiveness large. A gentleman called on me in whom Constructiveness, Locality, and other organs which go to form a talent for drawing landscape and botanical figures are large, but in whom Form is deficient; and he said, he could not, except with great difficulty and imperfection, draw or copy portraits.

The celebrated Cuvier owed much of his success as a comparative anatomist to this organ. De Candolle mentions that "His memory was particularly remarkable in what related to forms, considered in the widest sense of that word; the figure of an animal seen in reality, or in drawing, never left his mind, and served him as a point of comparison for all similar objects." This organ, as also the other organs, lying along the superciliary ridge were large in his head.

In the casts of two Chinese skulls, in the Phrenological Society's Collection, the organ is greatly developed; and, in a collection of portraits of eminent painters, presented by Sir G. S. Mackenzie to the Society, the organ appears uncommonly large in those who excelled in portrait painting.

The metaphysicians do not admit a faculty of this kind.

Mr. Jeffrey, in the article "Beauty," in the Supplement to the Encyclopædia Britannica, agrees with another author, whom he quotes, Mr. Knight, in maintaining, that "There are no *forms* that have any *intrinsic beauty*, or any power of pleasing or affecting us, *except through their associations, or affinities to mental affections,* either as expressive of fitness and utility, or as types and symbols of certain moral or intellectual qualities, in which the sources of our interest are obvious." From these observations one would suspect Mr. Jeffrey and Mr. Knight to be endowed with small organs of Form themselves, and that they have taken their own experience as that of mankind in general. The notion which Mr. Jeffrey has erected into a fundamental principle, and on which his whole essay on Beauty is built,—that external objects possess no qualities of their own fitted to please the mind, but that all their beauty and interest arise from human feelings which we have associated with them, is contradicted by daily experience. The mineralogist, when he talks of the beauty of his crystals, has a distinct and intelligible feeling to which the name of Beauty is legitimately applied; and yet he connects no human emotions with the pyramids, and rhombs, and octagons, which he contemplates in the spars. In short, I have met with persons in whom this organ is large, who declare that they enjoy a perceptible pleasure from the contemplation of mere form, altogether unconnected with ideas of utility and fitness, or of moral or intellectual associations; and that they can speak as intelligibly of elegant and inelegant, beautiful and ugly shapes, regarded merely as shapes, as of sweet and bitter, hard and soft.

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* Phrenology, p. 311.

Dr. Gall remarks, that some authors present the reader with descriptions of the persons whom they introduce, drawn with great minuteness and effect. Montaigne, for example, and Sterne are distinguished for this practice, and in the portraits of both the organ of Form is conspicuously large.

It is regarded as established.

24.—SIZE.

The faculty of distinguishing Form differs from the faculty of Size; because there is an essential difference between the idea of size and that of form. The size may be the same, and the form different. One of these kinds of knowledge may exist without the other; and there is no proportion between them. Besides, as formerly mentioned, the nerves of touch, and the organ of sight, do not form ideas of any kind; so that the power of conceiving size cannot be in proportion to the endowment of them. Dr. Spurzheim, therefore, inferred by reasoning, that there would be a faculty, the function of which is to perceive Size; and observation has proved the soundness of this conclusion, for the situation assigned by him to the organ has been found correct, and it is regarded as probable. In dissecting the brain, the convolutions which constitute Size and Form are found intimately connected The organ is placed at the internal corner of the arch of the eyebrow, on the two sides of Individuality.

A member of the Phrenological Society called on Dr. Spurzheim in Paris, and the latter remarked that he had this organ largely developed. This proved to be a correct indication of the talent in his case; for he possesses the power of discriminating size with great nicety. He is able to draw a circle without the aid of any instrument, and to point out the centre of it with mathematical accuracy. Being in the army, he found himself able to make his company fall from column into line with great exactness; estimating correctly by the eye the space to be occupied by the men, which many other officers could never learn to do. Locality, which also he largely possessed, would aid him in this practice.

There is reason to believe that this faculty is connected with the power of perceiving distance, and that it is a chief element in a talent for perspective. Mr. Ferguson, tutor in the family of Sir G. S. Mackenzie, stated, that he had a difficulty in "understanding a landscape" in a picture; and explained, that "it appeared to him to present a group of objects on a plain surface, without any perceptible fore or back ground." He attributed this defect in his perceptions to his not having been taught the rules of perspective at school. In the course of farther interrogation, he stated, that he sees the forms of objects distinctly, as also their color; that he likes brilliant tints best, and that in nature he perceives distance also. He has visited Roslin (in the neighborhood of Edinburgh), and not only perceived the beauty which characterizes that delicious spot, but enjoyed it with a keen relish. He has also seen many pieces of Highland scenery, and been delighted with them. Rivers, meadows, trees, or cultivated ground, are, however, the objects which interest him most. On turning his back upon any natural landscape, or shutting his eyes upon it, his recollections instantly become very confused. He is not able to recall in his mind the "relative positions" of the objects; while he distinctly recollects the *pleasing impressions* which they made upon him; this remembrance does not soon fade. His *recollection* of Roslin, for example, is like that of a confused picture of rocks and trees, and a river winding through them; but his remembrance of the impressions of grandeur and beauty, produced by the objects, is vivid and distinct.

For a long time it was difficult to account for this curious deficiency of mental power. Mr. F. permitted a cast of his face and forehead to be taken (which is sold in the shops), and in it the organ of *Size* appeared to be decidedly small, and Form and Locality not very fully developed; while, by examining his head, it appeared that Ideality, Wonder, Benevolence, with the organs of the other sentiments, and also of the intellectual powers, were nowise deficient; but to which of the three organs of Size, Form, or Locality, the imperfection fell to be ascribed, it was not easy to determine.

Subsequently, however, Mr. Douglas, miniature painter, a member of the Phrenological Society, stated in conversation, that one of the earliest indications of a liking for painting which he had experienced, was an extraordinary interest in matters connected with perspective. When a mere child, the appearance of approach in the far end of ploughed ridges puzzled him exceedingly, and he crawled across the fields, before he could well walk, to measure the actual distance betwixt each ridge with a stick, and was lost in astonishment when he found that the space between each was actually the same at both ends, notwithstanding the great difference which appeared between them to the eye. He continued from this time to take a great interest in perspective, as a quality in painting, and gave up landscape for miniature painting, not from inclination, but from motives of a different kind. On comparing his head with Mr. Fergnson's, the organ of Size was found to differ more than any of the others; it was very large.

On subsequently examining the head of Mr. P. Gibson, who was known greatly to excel in perspective, I again found the organ of Size very large. And, finally, in the head of a gentleman with whom I am intimately acquainted, this organ is developed rather below than above an average; and he stated to me, that, with the power of perceiving and recollecting distance with facility, he has nevertheless felt great difficulty in representing it correctly on paper; and, while he understands the general theory of perspective, he could never learn to practise it by tact of hand, and, on this account, gave up all attempts at drawing. In the last edition, I mentioned the case of a lady who, having Form large and Size deficient, copied figures accurately in regard to form, but inaccurately in regard to size. To which statement Mr. Jeffrey objected that size is necessary to proportion, and proportion to form; and that there was inconsistency in the account of the lady's talents. Mr. Jeffrey is right: she informs me that it is only the simplest forms which have few parts that she is able to copy correctly, and in drawing even them she will err in size; but that when a figure has detached parts, although she may give the outline of each part by itself with considerable accuracy, it will be larger or smaller than the original; whence the whole figure will be deficient in proportion. In drawing from nature, she failed in perspective; nevertheless she feels great pleasure in observing forms, recollects them easily, has a complete mental consciousness of the powers of Form and Size being different, and of the one being strong and the other weak in her mind.

The frontal sinus throws a difficulty in the way of observing this organ; and the negative evidence is, therefore, chiefly relied on.

It is stated as only *probable.*

25.— WEIGHT.

THERE seems to be no analogy between the weight or resistance of bodies, and their other qualities. They may be of all forms, sizes, and colors, liquid or solid, and yet none of these features would necessarily imply that one was heavier than the other. This quality, therefore, being distinct from all others, we cannot logically refer the cognisance of it to any of the faculties of the mind which judge of the other attributes of matter; and, as the mental power undoubtedly exists, there appears reason to conjecture that it may be manifested by means of a special organ. Persons who excel at archery and quoits, also those who find great facility in judging of momentum and resistance in mechanics, are observed to possess the parts of the brain lying nearest to the organ of Size largely developed; and the organ is now regarded as probable. STATICS, or that branch of mathematics which considers the motion of bodies arising from gravity, probably belongs to it. Persons in whom Individuality, Size, Weight, and Locality, are large, have generally a talent for engineering, and those branches of mechanics which consist in the application of forces; they delight in steam-engines, water-wheels, and turning-lathes. The same combination occurs in persons distinguished for successful execution of difficult feats in skating; in which the regulation of equilibrium is an important element. Constructiveness, when Weight is small, leads to rearing *still* fabrics, rather than to fabricating working machinery.

Mr. Simpson published in the Phrenological Journal (vol. ii. p. 410.) an interesting and ingenious Essay on this organ, in which he enumerates a great number of examples, in proof of its functions. It is large, says he, in Dr. Chalmers, Dr. Brewster, Sir James Hall, Sir George Mackenzie, Professor Leslie, and in Mr. Jardine and Mr. Stevenson, two eminent engineers. "We have lately seen," he continues, "Professor Farish of Cambridge, who manifests a high endowment of mechanical skill, and has the organ large; as has Mr. Whewell of the same University, who has written a work of merit on the same subject. In a visit we lately made to Cambridge, we saw much that was interesting in regard to this organ. Professor Farish's son inherits the mechanical turn and the organ. We saw both the statue and bust of Sir Isaac Newton, by Rubilliac. The bust was a likeness taken in the prime of his years, and in it the knowing organs are still more prominent than in the statue. *Weight* is very pre-eminent. The same organ is very large in the bust of the lamented Dr. Clarke, the traveller; and, as might have been expected, *Locality* quite extraordinarily developed.* We met with several persons with small Weight, who at once acknowledged deficiency in mechanical talent, and awkwardness in their actions and movements. A child of two years old was mentioned to us, although we did not see it, quite remarkable to every one for the large developement of brain at this part of the frontal bone, and for the uncommon steadiness of its walk, at an age when other children totter, and it is the theme of wonder to all who know it." The organ is large in the mask of Maclauchlan, a weaver of Saltcoats, who spent much time and money in devising means to regulate the stroke of the common pump, so as to make the working-rod move with the same momentum up and down. It is large also in the mask of Brunel, the celebrated engineer and mechanician. In examining masks, a depression of muscle, which sometimes takes place at this part, must not be mistaken for a fulness of the organ.

Mr. Simpson proceeds: "The faculty now under consideration, in high endowment, manifests itself in engineering, in dynamical skill, in the knowledge and application of mechanical forces. What may be its *lesser* endowments? Where do we find the organ? Situated in the midst of that group, which gives us the perception of the qualities of material objects; namely, Form, Size, Locality, Coloring, Order, and Number. It is evident there is a quality of bodies most essential to their nature, not included in these qualities, singly or combined; namely, their density and corresponding weight. As bodies gravitate in a well-known ratio to their density, and their density and weight are the same thing, Weight is only one name for gravitation. Does it then serve any important purpose in our being, or is it essential to our animal existence, that we should have an instinctive perception of gravitation, operating constantly and independently of reason? That state of rest which the law of gravitation constitutes the natural state of all bodies, solid, fluid, and aëriform, is called their *Equilibrium*. The simplest animal motions, what are they but alternate disturbance and restoration of *equilibrium?*"—"The land-animal walks and runs, and avails itself of the resistance of the earth,—the bird flies by its instinctive perception of the resistance of the air,—the fish uses its fins and tail, instinctively perceiving the resistance of the water."

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* In the numerous living heads we saw at Cambridge, we met often with the organ of Number large, and found, invariably, that it was accompanied in the individual with algebraic celebrity. The organization generally corresponded to the cause of the person's rank in the University; and, although there were exceptions, most of the persons who have achieved honors, evidently owe them to the great power of their knowing organs;—clearly showing, that those who were also gifted with deeply reflecting and combining powers, are not called to use them either in classical or mathematical studies. Many men, on the contrary, have figured in public life, in virtue of their great endowment of Causality and Comparison, who, from a smaller gift of the knowing organs, have held a very humble grade at Oxford and Cambridge.

"Some degree, therefore, of the power of adapting motions to the law of gravitation, some power over equilibrium, must be possessed by the whole animated creation,—for without it, it is plain, they must perish. May the organ of Weight be the organ of this faculty? To man alone is given the capacity to aid this power, and render his motion more effectual, and force more availing by the use of instruments,—and Franklin well named him a tool-making, or rather a tool-using animal. What are his tools? They are all modifications of the elementary mechanical powers. His club and bow are levers,—his axe, knife, sword, and arrow, are wedges. He instinctively aids his own muscular force by the lever, when he applies a bar of wood to raise a stone from the ground;—if he wishes to raise that stone to a certain height, perpendicularly, he will instinctively counteract its gravitation by forcing it up an inclined plane, instead of applying his own bodily force to lift it perpendicularly. The principle of the pulley will suggest itself whenever he has obtained a block with a cord, or thong, to draw water out of a pit. The screw is only the inclined plane wrapped spirally round a cylinder; to avail himself of which he would be led, whenever he attempted, as he early did, to build a tower."

These views, says Mr. Simpson, are strongly supported by diseased affections of this part of the brain. Miss S. L. was attacked with headache, and pain in the region of the organ of Weight, "her perception of equilibrium was deranged, and she experienced giddiness, inclined position of horizontal floors and ceilings, and the sensation of being lifted up, and of again falling down and forward. Her account of it is worthy of remark, for she said she felt as if she had been *tipsy*." Mr. Simpson refers to a diseased condition of this, and some other of the knowing organs, a curious mental affection, which Mr. John Hunter, the celebrated anatomist, experienced in 1776, and which is recorded in his life, written by Sir Everard Home. "From great anxiety of mind," says he, "Mr. H. had a severe illness. It attacked him on a journey, and his first sensation, it is well worthy of remark, was that *of having drunk too much*, although he had taken nothing but a little weak punch. On going to bed, he felt as if ***suspended in the air***, and soon after *the room seemed to go* ***round*** with very great rapidity. This ceased, but the strange sensation, like Miss S. L.'s, of being lifted up, continued; and, on being brought home in his carriage, his sensation was that of ***sinking or going down***. The symptoms of whirling and suspension increased; and his own head, when he raised it from his pillow, seemed to move from him to some distance with great velocity. When he became able to stand without being giddy, he was unable to walk without support; "for," says Sir E. Home, "*his own feelings did not give him information respecting his centre of gravity*, so that he was unable to balance his body, and prevent himself from falling." We need not add, continues Mr. Simpson, the obvious comment, that the organ of *Weight* was diseased, and the very function we have imputed to it, the instinct of equilibrium (expressed almost in our own words by Sir E. Home,) unequivocally impeded.*

The phenomena of intoxication are explained by Mr. Simpson in a similar way. "Both Miss S. L. and Mr. John Hunter," says he, "bore testimony to the illusive *feeling* of being intoxicated, while Miss S. L. had acute pain in the organ of the instinct or power of preserving the balance, and maintaining an upright posture. But for an innate, steady, and never-failing perception of equilibrium, animal movements would be only staggering and tumbling. The intoxicated soon lose a steady gait, fall down, see perpendiculars at other angles, believe the floor itself perpendicular, and grasp the ground to save themselves from falling off its surface; they feel lifted up, sinking down, and whirling round. Sickness would follow these sensations, independent of the stimulus of the liquor to the stomach; and it is extremely probable that sea-sickness results from the inverted feelings occasioned by motion which violates our habitual perception of equilibrium."*

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* Phrenological Journal, vol. ii. p. 302.

A correspondent of the Phrenological Journal mentions,† that he was struck with this remark about sea-sickness arising from the disturbance of equilibrium, and found by experience when at sea, that, by standing at the vessel's side, directing his eyes to an object on shore perfectly still, the top of a mountain for example, and shutting out with the palms of his hands all sight of the ship and the sea, sickness invariably left him, but always returned whenever he withdrew his hands, and allowed any part of the vessel to catch his eye.

Sir G. S. Mackenzie has suggested the name "Resistance," as more appropriate for this faculty than that of Weight. "We cannot judge," says he, "of Weight, as we do of Form, without repeated experience. We may see before us two balls of the same size and color. We take up one of them, and perceive that it requires a certain exertion or resistance on the part of the muscles of the arm and hand to support it. From this, however, we cannot determine that the other ball will produce the same effect, for it may be hollow. Now, although we have obtained the experience that two similar balls may not produce the same effect; this experience is of no use to us, for we must always make the experiment of lifting both, in order to determine which is the heavier. The impression of *Resistance* is, however, left with us; and probably it is the function of the faculty which Dr. Spurzheim calls that of Weight, to give us conceptions of resistance in general."[*] Mr. Simpson, I believe, is now disposed to admit the correctness of this analysis.

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* Phrenological Journal, vol. ii. p. 428.

† No. viii. p. 645

26.—COLORING.

Although the eyes are affected agreeably or disagreeably by different modifications of the beams of light or by colors, yet they do not conceive the relations of different colors, their harmony or discord, and they have no memory of them. Certain individuals are almost destitute of the power of perceiving colors, who yet have the sense of vision acute, and readily perceive other qualities in external bodies, as their size and form. This fact has been remarked by Mr. Stewart. He says, "In the power of conceiving colors, too, there are striking differences among individuals: and indeed I am inclined to suspect, that, in the greater number of instances, the supposed defects of sight in this respect, ought to be ascribed rather to a defect in the power of conception. One thing is certain, that we often see men who are perfectly sensible of the difference between two colors when they are presented to them, who cannot give names to these colors with confidence, when they see them apart; and are, perhaps, apt to confound the one with the other. Such men, it should seem, feel the sensation of color like other men, when the object is present; but are incapable (*probably in consequence of some early habit of inattention*,) to conceive the sensation distinctly, when the object is removed."[†]

In this quotation, we have a specimen of the usual mode of conducting metaphysical speculations. When the most curious and striking phenomena of the mind are mentioned, and when we look anxiously for an explanation of them, *habit* or *association* is dragged in to solve the difficulty; and this often merely in a parenthesis, as if no difficulty existed.

Observation enables us to prove, that individuals who have the part of the brain marked No. 26. largely developed, possess in a high degree the power of discriminating colors, and, on this account, the phrenologist admits this as a fundamental faculty of the mind.

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[*] Illustrations of Phrenology, p. 160.

[†] Elements, ch. iii.

Mr. Jeffrey objected to this doctrine, that light is always colored, indeed nothing else but color; and that it is impossible for any one to see acutely who cannot distinguish colors with equal success, because all visible objects must necessarily be distinguished by color alone. The answer is, that the eye receives the external impression of light, and transmits it to the organ of Coloring, just as the ears transmit sound to the organ of Tune; and both are requisite to the perception of color. If the eye be perfect, and the organ of Color deficient, the individual may be capable of distinguishing degrees of intensity of light, although he cannot discriminate differences of tint; and the former is sufficient to acute vision, as is proved by engraving and black chalk drawing; in which form distance and expression are successfully represented by mere differences of light and shade, or by different degrees of light independently of color.

The faculty, when powerful, gives a delight in contemplating colors, and a vivid feeling of their harmony and discord. Those in whom the organ is deficient experience little interest in coloring, and are almost insensible to difference of hues. In the Phrenological Transactions, Dr. Butter reports the case of Mr. Robert Tucker, whose eye-sight was not deficient, and who was able neither to distinguish nor to recollect many of the primitive colors, even when shown to him. "Orange, he calls green, and green colors orange; red, he considers as brown, and brown as red; blue silk looks to him like pink, and pink of a light blue color; indigo is described as purple."* The organ is reported to be decidedly deficient in this gentleman's head. The case of Mr. James Milne, brass-founder in Edinburgh, is also peculiarly illustrative of this faculty; and, as I obtained the facts from himself, they may be implicitly relied on.

Mr. Milne's grandfather, on the mother's side, had a deficiency in the power of perceiving colors, but could distinguish forms and distance easily. On one occasion, this gentleman was desirous that his wife should purchase a beautiful green gown. She brought several patterns to him, but could never find one which came up to his views of the color in question. One day he observed a lady passing on the street, and pointed out her gown to his wife, as the color that he wished her to get; when she expressed her astonishment, and assured him, that the color was a mixed brown, which he had all along mistaken for a green. It was not known till then that he was deficient in the power of perceiving colors.

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* Page 210.

Neither Mr. Milne's father, mother, nor uncle, on the mother's side, were deficient in this respect; so that the imperfection passed over one generation. In himself and his two brothers, however, it appeared in a decided manner; while in his sisters, four in number, no trace of it is to be found; as they distinguish colors easily Mr. Spankie, a cousin once removed, has a similar defect.*

Mr. Milne is rather near-sighted, but never could find glasses to aid his defect. He rather excels in distinguishing forms and proportions; and, although he cannot discover game upon the ground, from the faintness of his perception of colors, yet he is fond of shooting; and, when a boy, was rather an expert marksman, when the birds were fairly visible to him in the air. He sees them, however, only in the sky-light; and, on one occasion, when a large covey of partridges rose within ten or twelve yards of him, the back ground being a field of Swedish turnips, he could not perceive a single bird. His eye is decidedly convex to a considerable degree.

Mr. Milne's defect was discovered in rather a curious manner. He was bound apprentice to a draper, and continued in his service for three years and a half. During two years, he fell into considerable mistakes about colors, but this was attributed to inexperience and ignorance of the names of the tints. At length, however, when he was selling a piece of olive corduroy for breeches, the purchaser requested strings to tie them with; and Mr. Milne was proceeding to cut off what he considered as the best match, when the person stopped him, and requested strings of the same color as the cloth Mr. Milne begged him to point out a color to please himself; and he selected, of course, a green string. When he was gone, Mr. Milne was so confident that he himself was right, and the purchaser wrong, in the color that he had chosen, that he cut off a piece of the string which he intended to give, and a piece of that which had been selected, and carried both home, with a piece of the cloth also, and showed them to his mother. She then told him that *his riband* was a *bright scarlet*, and the *other a grass-green.* His masters would not believe in any natural defect in his power of perceiving colors; and it was only after many mistakes, and some vituperation, that he was permitted to renounce the business, and to betake himself to another, that of a brass-founder, to which he had a natural disposition; for he had used the turning-loom in constructing playthings, when a mere boy.

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* I have examined the heads of Mr. Milne's brothers, who are deficient in the power, and in them the organ is evidently little developed. I have also examined its developement in one of his sisters, and found no deficiency, but rather a fulness in the organ. Mr. Lyon, a member of the Society, states, that he has examined the head of Mr. Spankie, and found the organ rather deficient.

As to the different colors, he knows blues and yellows, certainly; but he cannot distinguish browns, greens and reds. A brown and green he cannot discriminate or name when apart; but when together, he sees a difference between them. Blue and pink, when about the same shade, and seen in daylight, appear to him to be of the color of the sky, which he calls blue; but seen in candle-light, the pink appears like a dirty buff, and the blue retains the appearance which it had in daylight. The grass appears to him more like an orange, than any other colored object with which he is acquainted. Indigo, violet and purple, appear only different shades of one color, darker or lighter, but not differing in their bases. He never mistakes black and white objects; he distinguishes easily between a black and a blue, and is able even to tell whether a black be a good or a bad one. In the rainbow he perceives only the yellow and the blue distinctly. He sees that there are other tints in it, but what they are he cannot distinguish, and he is quite unable to name them. In daylight, crimson appears like blue or purple, but in candle-light it seems a bright red.

When in Glasgow, his greatcoat was carried off from the travellers' room by mistake, and on inquiring at the waiter what had become of it, the question was naturally put, what was the color of the coat? Mr. Milne was quite puzzled by the interrogatory; and although he had worn it for a year, he could only reply, that it was either snuff-brown or olive-green, but which he could not tell. The waiter looked as if he suspected that Mr. Milne wanted to get a coat instead of wishing to recover one; but the coat was found, although even yet Mr. Milne is not able to tell the color. He is apt to mistake copper for brass, unless he distinguish them by the file.

A mask of Mr. Milne is sold in the shops, and in it the organs of Form, Size, and Constructiveness* are well developed, while that of Coloring is decidedly deficient; there being a depression in the part corresponding to this organ, into which the point of the finger falls on passing it along. As a contrast, the reader may compare with it the masks of Mr. David Wilkie, Mr. Haydon, Mr. Douglas, or Mr. Williams, all eminent painters; and as the organ is large in these masks, a very marked difference will be perceptible.

Cases of this description are not rare. In the mask of Mr. Sloane of Leith, the developement is small, and in a letter, dated 20th February, 1822, addressed to me, this gentleman says, "When I see a piece of tartan, or any other complication of Colors, I can easily distinguish the difference of shades; but were the different Colors presented to me singly, I could not say which was which. I feel particularly at a loss to distinguish betwixt green and brown, and likewise betwixt some shades of red and blue. I am not sensible of being deficient in seeing any thing at a distance, or of being unable to perceive as small a particle as the generality of men can do." In this mask, the deficiency is not so great as in that of Mr. Milne, but the organ of Coloring is greatly less developed in it than in the masks of the painters before alluded to.

There are instances of individuals who involuntarily associate particular colors with particular names, even although they have never seen the persons named; thus all Johnsons will be blue, and all Thomsons black, and so with other names and colors.— There appears to be an association in activity between the organs of Coloring and Language in such individuals, so that the one cannot act without exerting the other, as some men cannot bend one finger without bending also the one next it. This however is only a conjecture. See cases of Coloring attached to words, things and persons, Vol. iii. p. 420. of the Phrenological Journal, also Vol. viii. p. 70. and 216.

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* This is an example of the organ of Constructiveness being situated higher than usual, as noticed on p. 204.

The proper way to observe the developement of this organ, is to distinguish to what extent the centre of each eyebrow projects forward. In Mr. Milne it is slightly depressed below the neighboring parts; in Mr. Sloane, it is scarcely depressed, but it does not project, so as to overhang the eye-ball; in the painters it is large and prominent, forming a heavy shade above the eye. Dr. Spurzheim mentions that a large developement of it is indicated by an arched appearance in the middle of the eyebrow, and that this sign is found in the portraits of Rubens, Titian, Rembrandt, Salvator Rosa, Claude Lorraine, &c.; but its large size is also indicated by the projection forward of this part of the eyebrow without arching. It presents this appearance in the masks of the late Sir Henry Raeburn, Wilkie, Haydon, and other eminent painters.

Dr. Gall states it as an indubitable fact, that determinate laws of proportion in colors exist. The three primitive colors of blue, yellow, and red, says he, do not harmonize. If we mix two of these, an intermediate color is produced; Blue and yellow give green; blue and red, violet; red and yellow, orange. To obtain a harmonious combination, we must place alongside of a primitive color a mixed one, into which the primitive enters as an element; the mixed color will always be in harmony with the two primitive colors from which it is produced. If we place, says he, a silk riband, of a blue color, and about an inch broad, on a sheet of white paper, and look at it steadfastly; at the end of a short time, we shall see besides, yellow and red, and (at the side) orange, resulting from their mixture.*

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* Sur les Fonctions du Cerveau, tome v. p. 82.

Mr. Jeffrey, in the article "Beauty," already alluded to, informs us, "That color is, in all cases, absolutely indifferent to the eye;" and adds, "that it is no doubt quite true, that among painters and connoisseurs, we hear a great deal about the harmony and composition of tints, and the charms and difficulties of a judicious coloring. In all this, however, we cannot help thinking that *there is no little pedantry and no little jargon.*" Speaking of the natural gamut of colors, he continues, "We confess we have no faith in any of these fancies; and believe, that if all these colors were fairly arranged, on a plain board, according to the most rigid rules of this supposed harmony, nobody, but the author of the theory, would perceive the smallest Beauty in the exhibition, or be the least offended by reversing their collocation." It is a curious fact, that the organ of Coloring in Mr. Jeffrey's head is actually depressed; and it appears that, in the usual manner of metaphysical writers, he has conceived his own feelings to be an infallible standard of those of human nature in general. It is quite true that the *eye* is affected only by the degrees of light, but by this expression, the mind is here obviously meant. The author, when speaking in the next sentence of the gamut, draws no distinction between the powers of the mind and those of the eye. Those individuals, then, whose cases I have cited, and who cannot distinguish dark brown from scarlet, buff from orange, or violet from pink, would probably subscribe to Mr. Jeffrey's positions. But other individuals, such as Wilkie and Haydon, have an intense sensibility to shades of every hue, and of every degree; and some painters have assured me, that they experience a very decided emotion in contemplating colors, independent of every association; and declare, that they perceive harmony, congruity and incongruity, in their arrangements, even on a plain board, as certainly and as distinctly as they distinguish harmony and discord in sound.

Mr. Jeffrey, in his review of the System of Phrenology, in the Edinburgh Review, No. 88, controverts these inferences. He says, "Without meaning to call in question the fact of the depression of his skull, we happen to *know* that the individual here mentioned has a remarkably fine and exact perception of colors.

so as to be able to *match them* from memory, with a precision which has been the admiration of many ladies and dressmakers. He has also an uncommon sensibility to their beauty; and spends more time than most people in gazing on bright flowers and peacocks' necks, and *wondering*, he hopes innocently, *what can be the cause of his enjoyment.* Even the phrenologists, we think, must admit, that, *in his case*, it cannot be the predominance of the appropriate faculty, since they have ascertained that he is totally destitute of the organ."

In a letter which I addressed to Mr. Jeffrey, in answer to this criticism,* I asked, "how could you assert in the Encyclopædia, that 'Color is in all cases absolutely *indifferent* to the eye,' if you were conscious when you wrote of possessing 'an *uncommon sensibility to their beauty?*' How could you stigmatize as '*pedantry and jargon*,' the doctrine of 'the harmony and composition of tints, and the charms and difficulties of a judicious coloring,' and assert, 'that if all those colors were fairly arranged, on a plain board, according to the most rigid rules of this supposed harmony, nobody but the author of the theory would perceive *the smallest beauty* in the exhibition, or be the least offended by reversing their collocation,' when all the time you enjoyed in yourself 'a remarkably fine and exact perception of colors, so as to be able to *match them* from memory with a precision which has been the admiration of many ladies and dressmakers?' "

In a Note to the 89th Number of the Review, Mr. Jeffrey replied to this argument as follows: "There are two questions here: *first*, whether there are any grounds, from inconsistency or otherwise, to impeach the credit of the Reviewer, when he says that he can *distinguish* colors, and shades of colors, with more than common accuracy? and, *secondly*, whether there are any such grounds for disbelieving him, when he says that he has a strong sense of their *beauty?* The first is the main allegation, and formed the whole original subject of controversy. Mr. Combe alleged that the organ of color was actually depressed in the head of that individual, and inferred that he probably did not know scarlet from brown: it was answered that this was a mistake,—for he was known to have a remarkably fine perception of colors and their diversities: and the replication to this in the pamphlet, is, that that cannot well be, since he himself had stated, in the Encyclopædia, that all colors are indifferent to the eye, and one just as beautiful as another. Well, suppose he had said so, where would have been the inconsistency? for, where is the connexion between the allegations that are held to be contradictory? A man who happens to think brown as beautiful as scarlet, may surely perceive *the difference* between them,—or, rather he *must* perceive it, when he compares them, in this way, as two distinct and distinguishable objects. There is not, therefore, the shadow of a pretext for discrediting the Reviewer's leading allegation, that the individual alluded to, though destitute of the phrenological organ, can discriminate colors with unusual readiness and precision."

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* Phren. Journal, vol. iv. p. 1., and also p. 242.—I beg leave to refer the reader to these Letters for an answer to the whole of Mr. Jeffrey's criticisms on this work.

In answer to these remarks, I beg leave to observe, that Mr. Jeffrey overstates my objection. The paragraph on which he comments is printed in this work *verbatim* as it stood in the previous edition, and the reader will perceive that I did not allege that the organ was absolutely wanting in his head, and did not infer that he was incapable of perceiving colors, or that "he probably did not know scarlet from brown." On the contrary, the statement was merely that the organ is "depressed," that is to say, that in him it is deficient in size relatively to the other organs; whereas in the painters it is large. The work itself afforded information of the effect of a depressed organ; it is said "that PERCEPTION is the *lowest* degree of activity," of every knowing and reflecting faculty; "when a colored object is presented, and the individual cannot perceive, so as to distinguish the shades, he is *destitute* of the power of manifesting the faculty of color:" "Each organ will enable the mind to recall the impressions which it served at first to receive;" and memory is merely "a degree of activity of each faculty." A friend in India, after reading Mr. Jeffrey's note, wrote to me as follows: "Melody is the pleasure arising from successions of simple sounds suited to each other. Harmony is that arising from combined sounds, or from several striking the ear simultaneously, as in a band playing different parts. The former requires much less of the organ than the latter, and hence the Scotch, with no great Tune, are melodists, but nothing as musicians. In like manner, the allocation of simple colors is their melody, and the combination of several is harmony. Mr. Jeffrey might thus place one riband beside another very well, but not perceive the harmony of combined colors."* There is no inconsistency, therefore, between the depression of Mr. Jeffrey's organ of Coloring and the manifestations which he describes. Mr. Milne even is able to perceive some colors, to distinguish differences between them, and he has memory of some of them; although in him the organ is considerably more depressed than in Mr. Jeffrey. The real objection stated in the work was, that painters not only distinguish differences, but enjoy *direct* pleasure from "contemplating colors independently of every association, and that they perceive harmony, or congruity and incongruity, in their arrangements, even on a plain board, as certainly and as distinctly as they distinguish harmony and discord in sound," which assertions Mr. Jeffrey designated as pedantry and jargon.

In answer to my statement, therefore, he ought to have proved, that, notwithstanding of his depressed organ, he possesses the faculty in this higher degree, that he actually receives *direct* pleasure from colors, and perceives their harmonies and discords. In No. 88. of the Review, he endeavored to do this, by referring to his "remarkably fine and exact *perception* of colors, so as to be able to match them from memory;" and, to his delight, "in gazing on bright flowers and peacocks' necks;" and in No. 89. of the Review, he favors us with the following additional arguments in support of this position.

"2. But, in the next place," says Mr. Jeffrey, "and this is still more material, it is certain that the individual in question *does not*

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* I understand that this defect is apparent in some painters; they are capable of matching a few simple colors, but when a numerous assemblage of them requires to be introduced into a picture, they fail in giving them harmony.

maintain, in the Encyclopædia, that there is no beauty in colors, or combinations of colors,—but the very reverse. His whole object in that treatise, as every one must know who has looked into a line of it, is, not to deny the existence of beauty, but to *explain* its nature and causes, in colors as in every thing else: And, accordingly, not only is there no doubt thrown on the fact of their beauty, but its reality, and that of the peculiar pleasure afforded by it, is both expressly asserted, in a variety of passages, and *constantly* assumed and taken for granted, as the very basis of the theory, and the test of its illustrations, which are urged in its support. The theory is, that colors are beautiful, not in consequence of the mere organic operation of their physical qualities on the eye, but in consequence of their habitual *association* with certain simple emotions or mental qualities, of which they remind us in a great variety of ways. Thus Blue, for example, is said to be beautiful, because it is the color of the unclouded sky,—Green, because it is that of vernal woods and summer meadows,—and Red, because it reminds us of the season of roses, or of the blushes of youth and innocence;—and, accordingly, when these associations are disturbed, the beauty which they created disappears. Green would not be beautiful in the sky, nor blue on the cheek, nor vermilion on the grass. The doctrine is precisely the same as to the beauty of combination of colors, and it is attempted to be proved by similar illustrations. Throughout it is distinctly stated, and invariably assumed as indisputable, *that they are beautiful*, and afford pleasure to those who admire them,—though it is alleged that there is a good deal of pedantry in those who dogmatize on the laws of their harmony, and affect to limit their pleasing combinations exclusively to certain arrangements. It is maintained, as before, that their beauty depends *entirely* on the associations with which they are connected; and while it is admitted that certain combinations will generally excite the same associations in those who are devoted to the same pursuits, it is denied that these are either universal or unvarying, or that the feeling they undoubtedly excite can ever be referred to the organic action of the colored light on the sense. These opinions may be right or wrong, but the only question now at issue is, whether they are inconsistent with the admission of the fact, that colors are beautiful? and whether the man who holds them must be disbelieved, when he says that he has a keen sense of *this kind of beauty?*"

In this note, Mr. Jeffrey no longer wonders what can be the *cause* of his enjoyment from the bright flowers and peacocks' necks. He informs us distinctly, that he has no *direct* perception of beauty in their colors as mere colors, but that the beauty perceived by him depends "*entirely* on the associations with which they are connected." "Colors," says he, "are *beautiful, not in consequence of the mere organic operation of their physical qualities on the eye*, but in consequence of their habitual *association* with certain simple emotions or mental qualities of which they remind us in a great variety of ways." It now turns out, accordingly, that his pleasure in contemplating the bright flowers and peacocks' necks arose, not from any quality in these objects themselves, or from any direct effect produced by them on his own mind, but that he instantly passed away from the contemplation of their hues, and dwelt on something else, which they served merely to introduce to his fancy. He was pleased, for example, with the red of the flowers, not because it was a color grateful in itself, but because it reminded him of the lovely season in which roses are produced, or of the blushes of youth and innocence; and he delighted in the blue of the peacocks' necks, not because that color was intrinsically pleasing, but because it excited the recollection of the unclouded sky. The painters, on the other hand, in whom the organ is large, state that all this is the very opposite of the sources of their pleasure from colors. They inform me that the very circumstance of Mr. Jeffrey preferring bright flowers and peacocks' necks, indicates that his mental power is weak, that it requires a strong stimulus to excite it to action, and even when thus stimulated, it is not capable of producing feelings of direct pleasure, or perceptions of harmony and discord, which, from their large organs, they decidedly enjoy. His experience, therefore, corresponds in the most complete manner with the "depressed" state of the organ in his head.

This is so plain as scarcely to admit of illustration; but we may [illegible] there is no harmony or discord in [illegible] pleasure from melody; but that, nevertheless, [illegible] in hearing a military band. If we were to [illegible] a person, what could be the source of his [illegible] and he should answer, "Oh, the notes themselves [illegible] clarionet, and flute, give me no pleasure, but [illegible] of the gay uniforms, the waving plumes, and fine [illegible] of the lancers; they recall the summer evening pa- [illegible] the loveliness of earth and sky in that delightful season, [illegible] smiles of beauty and fashion that animate and adorn the scene; and hence the band gives me the highest gratification." If such a statement were made, who that enjoys a sensibility to music, would not say that Phrenology would be in fault if such a man were not deficient in the organ of Tune? In fact, the individual supposed, would never dwell for a moment on the music itself; to him it would be mere sound, to excite in his mind the ideas of the lancers and the parade; which would be the real sources of his enjoyment, and objects of his admiration. This case is an exact parallel to that of Mr. Jeffrey, in regard to colors. The colors themselves exhibit no beauty to his mind; they make no impression of an agreeable nature, so as to engage his attention with their own loveliness; they merely usher in extraneous ideas and emotions, in which he finds real gratification. Would not Phrenology be in fault, if in him the organ of Coloring were otherwise than "depressed?"

A legal practitioner, in a country town of Scotland, whom I have seen, and in whom this organ was very large, was engrossed by a passion for showy flowers, even to the neglect of urgent calls on his attention. It is probable that the intense sensibility to colors, which accompanies a large developement of the organ, was the source of this interest.

Phrenologists are accustomed to infer the particular powers which are most vigorous in an author's mind, from the manifestations of them in his works; and none affords better scope for observation than the faculty of Coloring. Unless the impressions made on the mind of an author by colors were very strong, he tries which interested him, and that afterwards, when he wished to produce a more complete picture, every tree, every group of bushes, and every stone of any considerable magnitude, presented itself spontaneously to his mind. About the same period Dr. Gall became acquainted with M. Meyer, author of the romance of "*Dia-na-Sore*," a person who found no pleasure except in a wandering life. Sometimes he went from house to house in the country, and at other times attached himself to some man of fortune, to accompany him in extended travels. He had an astonishing faculty in recollecting the different places which he had seen. Dr. Gall moulded his head also; he then placed it and the other two together, and compared them attentively; they presented great differences in many points, but he was struck with the singular form which appeared in all the three a little above the eyes, and on the two sides of the organ of Individuality, viz. two large prominences commencing near each side of the nose, and going obliquely upwards and outwards, almost as high as the middle of the forehead. From that time he was led to suppose, that the talent for recollecting places depended on a primitive faculty, of which the organ was situated under this part of the skull; innumerable subsequent observations confirmed this inference.

Dr. Spurzheim states, that "the special faculty of this organ, and the sphere of its activity, remain to be determined. It makes the traveller, geographer, and landscape-painter, recollect localities, and gives notions of perspective. It seems to me, says he, that it is the faculty of Locality in general. As soon as we have conceived the existence of an object and its qualities, it must necessarily occupy a place, and this is the faculty that conceives the places occupied by the objects that surround us."* Sir George S. Mackenzie considers the primitive faculty to be that of perceiving *relative position*. Dr. Spurzheim states, that "notions of perspective" are given by Locality, but certain facts, already noticed, appear to show that these depend rather on Size: in other respects his observations coincide with my own experience.

Persons in whom this organ is large, form vivid and distinct conceptions of situations and scenery which they have seen or heard described, and they have great power in recalling such conceptions. When the faculty is active from internal excitement of the organ, such ideas are presented to them involuntarily. In the mask of Sir Walter Scott the organ is large. Readers, similarly endowed, are almost as much delighted with his descriptions of scenery, as by a tour made by themselves amid the mountain glens; while those in whom the organ is small, are quite uninterested by his most splendid poetical landscapes. This author writes so pictorially, that he almost saves an artist, who means to illustrate his pages, the trouble of invention.

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* Phrenology, p. 319.

An author, in whom this organ is moderately developed, treats of places in a very different manner. Mr. Tennant, the author of Anster Fair and the Thane of Fife, merely designates, by appropriate epithets, the leading features of a landscape, in a way which excites a pleasing and distinct recollection of it in those who have seen it, but which calls up no picture in the mind of a reader who was not familiar with it before; and in his head the organ of Locality is below an average size. The following lines are characteristic of his manner:

> "Next them the troopers each on fervent steed
> That dwell *within the warm and flowery dales*
> *Where Annan and where Esk, and Liddle, lead*
> *Their streams down tripping through the sunny vales,*
> And where the *stronger and more swelling Tweed*
> *Emergent from his midland mountain, trails*
> *Voluminous and broad his waters down*
> To meet the briny sea by bulwark'd Berwick town."

The organ is large in the busts and portraits of all eminent navigators and travellers, such as Columbus, Cook, and Mungo Park; also in great astronomers and geographers, as Kepler, Galileo, Tycho Braché, and Newton. In Tasso the poet, it appears also to have been very large, and he manifested the faculty in a high degree. This faculty gives what is called "*Coup d'œil*," and judgment of the capabilities of ground. It is necessary to the military draughtsman, and is of great importance to a general in war. Dr. Gall mentions, that he had observed the organ large in distinguished players at chess; and he conceived their talent to consist in the faculty of conceiving clearly a great number of the possible positions of the men.

Some persons have an instinctive tact at discriminating and recollecting the situation of the organs on the Phrenological bust, while others experience the greatest difficulty in doing so. The former have Locality and Form large, the latter small, indicated by a general narrowness at the top of the nose. The latter state their own inability as an objection against the system; but this is equally logical as if Mr. Milne were to deny the existence of a variety of colors, because his own organ of Coloring is so defective that he cannot perceive them.

Locality appears to be an element in a genius for geometry. In the heads or busts of six or seven eminent mathematicians which I have carefully examined, this organ, and also those of Size, Individuality and Comparison, are large. Indeed, pure geometry treats only of the relations of space, and does not imply agency, or any relation, except that of proportion; and hence it might be legitimately inferred to belong to the sphere of the organs now mentioned. Negative cases also coincide with these positive observations. Zerah Colburn, the American youth who was celebrated for his arithmetical powers, turned his attention to mathematics, but with very little success. He stated to me that he had been taught the first six books of Euclid, and understood the propositions, but felt no interest in the study. He liked algebra much better; and he has the organ of Number large, but that of Locality deficient. The gentleman who had taken charge of his education, it is said, at first intended him for a mathematician, but afterwards, finding that his genius did not lie that way, directed his attention to law. Mr. George Bidder, when a mere child, displayed such astonishing talent as a mental calculator, that several gentlemen in Edinburgh were induced to take charge of his education; and, on the supposition that his abilities extended to mathematical science generally, selected for him the profession of an engineer. Having b
this intention, and having observed that in his head the c

the mathematical faculties were not developed in any extraordinary degree, I inferred that his eminence as a mathematician would not equal that which he had attained as a calculator, and communicated this conviction in writing to Principal Baird, one of his patrons. Mr. Bidder subsequently pursued the study of mathematics; but, at the end of two years, both he himself and Professor Wallace informed me, that he was not distinguished for more than common ability in the class.

When the group of organs situated at the top of the nose, namely, Individuality, Form, Size, Weight, and Locality, are all large, there is generally a strong talent for dynamics. Persons thus endowed excel in turning, and in archery; and if Constructiveness be also full, and they have been bred to professions in which they find no scope for these faculties, they frequently set up private work-shops, and become inventors and improvers of machinery.

The organ of Locality is generally much larger in men than in women; and the manifestations correspond.

Dr. Gall cites several cases of diseased affection of this organ; and in the Phrenological Journal,* Mr. Simpson gives a highly interesting detail of symptoms attending disorder of this and the other knowing organs already treated of.

This organ is possessed by the lower animals, and many interesting facts are recorded of their manifestations of the faculty. Dr. Gall mentions several instances of dogs returning to their homes from a great distance, without the possibility of their having been guided by smell or sight. "A dog," says he, "was carried in a coach from Vienna to St. Petersburgh, and at the end of six months reappeared in Vienna: Another was transported from Vienna to London;—he attached himself to a traveller, and embarked along with him; but at the moment of landing, he made his escape and returned to his native city. Another dog was sent from Lyons to Marseilles, where he was embarked for Naples, and he found his way back by land to Lyons." An ass shipped at Gibraltar on board the Isler Frigate in 1816, was thrown overboard, when the vessel struck, at Point-de-Gat in Spain, a distance of 200 miles. His ears had holes in them, indicating that he had been used for carrying criminals when flogged, and as such asses are abhorred by the peasantry, no one stopped him, and he immediately returned, through a mountainous and intricate country, intersected by streams, to Gibraltar.—Riby and Spence's Entomology, p. 496. The common hypothesis, Dr. Gall observes, that dogs retrace their way by the aid of smell, appears abundantly absurd, when applied to cases in which they were transported by water, or in a coach; and the idea that these animals can discover the effluvia of their master's person across a space of several hundred leagues, appears equally preposterous. Besides, a dog does not return home by the straightest road, nor even by the precise line in which he was carried away; and some naturalists have therefore been obliged to admit an occult cause of this surprising talent, and named it a *sixth sense*. Dr. Gall considers it to belong to the organ of Locality. The falcon of Iceland returns to its native place from a distance of thousands of miles; and carrier pigeons have long been celebrated for a similar tendency, and have occasionally been employed in consequence to convey despatches. Swallows, nightingales, and a variety of sea-fowls, migrate from one climate to another at certain seasons of the year, which is attributed by Dr. Gall to periodical and involuntary excitement of this organ.

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* No. vii. p. 426.

The frontal sinus has been stated as an objection to Locality, but it rarely ascends higher than the lower part of it; and while prominences formed by the sinus are irregular in form, and generally horizontal in direction, the elevations occasioned by a large developement of Locality are uniform in shape, and extend obliquely upwards towards the middle of the forehead. Further, the negative evidence in favor of the organ is irresistible, and it is therefore held as established.

28.—NUMBER.

A SCHOLAR of St. Poelton, near Vienna, was greatly spoken of in that city, on account of his extraordinary talent for calculation.

He was the son of a blacksmith, who had not received any particular instruction beyond that bestowed on other boys at the same school; and in all other respects was nearly on a footing of equality with them. Dr. Gall made him come to Vienna, and presented him to his audience when he was nine years of age. "Lorsqu'on lui donnait," says Dr. Gall, "je suppose, trois nombres exprimés chacun par dix à douze chiffres, en lui demandant de les additionner, puis de les soustraire deux à deux, de les multiplier et de les diviser chacun par un nombre de trois chiffres; il regardait une seule fois les nombres, puis il levait le nez et les yeux en l'air, et il indiquait le résultat de son calcul mental avant que mes auditeurs n'eussent eu le temps de faire le calcul la plume à la main. Il avait creé lui-même sa méthode." An advocate of Vienna stated his regret that his son, of five years of age, occupied himself exclusively with numbers and calculation, in such a manner that it was impossible to fix his attention on any other object, not even on the games of youth. Dr. Gall compared his head with that of the boy just mentioned, and found no particular resemblance, except in a remarkable prominence at the external angle of the eye, and a little to the side. In both, the eye was in some degree covered by the external angle of the upper eyebrow. These cases suggested the idea that the talent for calculation might be connected with a particular organ; and Dr. Gall sought for men distinguished for this power, in order to verify the discovery. He repaired to the Councillor Mantelli, whose favorite occupation was to invent and solve problems in mathematics, and particularly in arithmetic, and found the same configuration in him. He next went to Baron Vega, author of Tables of Logarithms, at that time Professor of Mathematics, and who, in every other talent, "était un homme fort médiòcre," and found in him the same form of head. He then visited private families and schools, and desired the children distinguished for ability in calculation to be pointed out to him; and still the same developement recurred. He therefore felt himself constrained to admit a special organ and faculty for this talent.

The organ, when large, fills up the head outside of the external angle of the eye, a very little below the point called the external angular process of the frontal bone.

The special function of the faculty seems to be calculation in general. Dr. Gall calls it "*Le sens des nombres;*" and, while he states distinctly that arithmetic is its chief sphere, he regards it as also the organ of mathematics. Dr. Spurzheim, on the other hand, limits its functions to arithmetic, algebra, and logarithms; and is of opinion that the other branches of mathematics, as geometry, &c. are not the simple results of this faculty. In this analysis he appears to me to be well founded. Mr. George Bidder, when only seven years of age, and without any previous instruction, showed an extraordinary talent for mental calculation; and I have seen him, when only eleven, answer the most complicated questions in algebra, in a minute, or a minute and a half, without the aid of notation. When he first came to Edinburgh, and before I had seen him, a gentleman waited on me, accompanied by three boys of nearly equal ages, and said, "One of these is George Bidder, the celebrated mental calculator, can you tell which is he by his head?" On examining the organ of Number in all of them, I replied that one of them ought to be decidedly deficient in arithmetical talent; that another should possess it in a considerable degree; but that the third must be Bidder, because, in him, the organ was developed to an extraordinary extent. The gentleman then stated that the indications were perfectly correct; that the first was a boy who had been remarked as dull in his arithmetical studies; the second was the most expert calculator selected from a school in Edinburgh; and the third was Bidder. Dr. Gall mentions a similar experiment which was tried with him, and with the same result. He gives a detailed account of Zerah Colburn, the American youth who exhibited great talents for calculation, and in whom also the organ was found large. This young man visited Edinburgh, and afforded the phrenologists of this city an opportunity of verifying Dr. Gall's observations, which were found to be correct. Masks of him and Bidder were taken, and now form of the Phrenological Society's collection. These two exam-, however, prove that Dr. Spurzheim is right in limiting the tion of this faculty to calculation of numbers; as neither of se young men have proved so eminent in geometry as in arithtic and algebra. The organ is large also in the mask of Humoldt, celebrated for his powers of calculation. This organ, and ndividuality, both large, give the talent of recollecting dates.

I am acquainted with other individuals in whom this organ is deficient, and who experience great difficulty in solving the most ordinary arithmetical questions, who, indeed, have never been able to learn the multiplication table, or to perform readily common addition and substraction, even after persevering efforts to attain expertness. This organ is small in the mask marked “French M. D.;” and it serves as a contrast, in this respect, to those just mentioned, in which it is large.

Dr. Gall observes, that when this organ predominates in an individual, all his faculties receive an impression from it. He knew a physician in whom it was very large, who labored to reduce the study of medicine, and even the virtue of particular medicaments, to mathematical principles; and one of his friends, thus endowed, endeavored to found an universal language on similar grounds.

Dr. Spurzheim mentions, that “certain races of Negroes make five the extent of their enumeration, that is, they count only as far as five by simple terms; they say, “five-one, five-two, five-three,” &c. “Negroes in general,” he continues, “do not excel in arithmetic and numbers; and, accordingly, their heads are narrow in the seat of the organ of Number.” Humboldt also mentions that the Chaymas (a people in the Spanish parts of South America) “have great difficulty in comprehending any thing that belongs to *numerical* relations;” and that “the more intelligent count in Spanish with an air that denotes a great effort of mind, so far as 30, or perhaps 50;” and he adds, that “the corner of the eye is sensibly raised up towards the temple.”

Dr. Gall mentions, that two of his acquaintances felt pain in the region of this organ, after being occupied for several days in succession with difficult calculations. In the Hospital of Vienna, he saw a patient whose insanity degenerated into idiocy, but who nevertheless occupied himself solely with counting. He stopped, however, regularly at ninety-nine; could never be induced to say one hundred, and recommenced counting at one. M. L. A. Gælis, in his Treatise on Acute and Chronic Hydrocephalus, mentions the case of a boy, who, though stupid in every other respect, still manifested, in his twelfth year, an astonishing memory for numbers, and a strong feeling of Benevolence; which qualities, however, he adds, disappeared in proportion as his malady, hydrocephalus, increased.

It seems difficult to determine whether this faculty exists in the lower animals or not. George Le Roy states from observation, that magpies count three; while Dupont de Nemours asserts that they count nine: Dr. Gall does not decide the question.

The organ is established.

29.—ORDER.

ORDER supposes a plurality of objects; but one may have ideas about a number of things and their qualities, without considering them in any order whatever. Every arrangement of external articles is not equally agreeable to the mind; and the disposition to be delighted with order, and distressed by disorder, is not in proportion to the endowment of any other faculty. There are individuals who are martyrs to the love of order, who are distressed beyond measure by the sight of confusion, and highly satisfied when every thing is well arranged. These persons have the organ in question large. The sort of arrangement, however, prompted by this faculty, is different from, although perhaps one element in, that philosophical method which is the result of the perception of the relations of things. The faculty of which we here speak, gives method and order in arranging objects, as they are physically related; but philosophical or logical inferences, the conception of systematizing or generalizing, and the idea of classifications, are formed by the reflecting faculties. Dr. Spurzheim mentions, that the Sauvage de l'Aveyron at Paris, though an idiot in a very high degree, cannot bear to see a chair, or any other object out of its place; and as soon as any thing is deranged, he, without being excited to it, directly replaces it. He saw also in Edinburgh a girl, who, in many respects, was idiotic, but in whom the love of order was very active. She avoided her brother's apartment, in consequence of the confusion which prevailed in it.

Dr. Gall mentions, that he has met with facts which strongly indicate, that "order" depends on a primitive faculty; but that, on account of the difficulty of observing the organs placed in the superciliary ridge, and the small size of this organ in particular, as pointed out by Dr. Spurzheim, he has not been able to collect a sufficiency of determinate facts to authorize him to decide on its situation.*

I have seen several instances in confirmation of this organ. A gentleman of this city, whose mask is sold as an illustration of "order," has a large developement of it; and his perception of symmetrical arrangement is exceedingly acute. On each superciliary ridge of this cast, there is an elevation resembling a small pea, which is frequently mistaken for the organ; that, however, appears to be merely a projecting point of the frontal bone, to which some fibres of the temporal muscle are attached. The developement of the organ is indicated by a great fulness, producing a square appearance at the external angles of the lower part of the forehead. I have seen other cases, in which that part of the brain was very small, and the love of order was extremely deficient. On the whole, therefore, I am disposed to admit the organ as ascertained. The organ is large in the mask marked "French M. D.," in Douglas, and in Humboldt, brother of the traveller, and small in Anne Ormerod.

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* Sur les Fonctions du Cerveau, tom. iv. p 467.

30.—EVENTUALITY.

THIS organ, when large, gives prominence or rounded fulness to the middle of the forehead.

PITT.

22. Individuality moderate.
30. Eventuality large.
34. Comparison rather large.

MOORE.

22. Individuality large.
30. Eventuality small.
34. Comparison very large.

SHERIDAN.

22. Individuality large.
30. Eventuality large, and
34. Comparison full.

After Dr. Gall had discovered an external sign of the talent for learning by heart, he was not long in perceiving that it by no means indicated every species of memory. He observed, that, among his school-fellows, some excelled in verbal memory, and remembered even words which they did not understand; while others were deficient in this qualification, but recollected with uncommon facility facts and events; that some were distinguished by a great memory of places; some were able to repeat, without mistake, a piece of music which they had heard only once or twice, while others excelled in recollecting numbers and dates; but no individual possessed *all* of these talents combined in himself. Subsequently to these observations, he learned that philosophers before him had arrived at similar conclusions, and had distinguished three varieties of memory,—memory of things, "*memoria realis;*" verbal memory, "*memoria verbalis;*" and memory of places, "*memoria localis.*" In society, he observed persons who, though not always profound, were learned, had a superficial knowledge of all the arts and sciences, and knew enough to be capable of speaking on them with facility; and he found in them the middle of the lower part of the forehead very much developed. At first he regarded this as the organ of the "memory of things;" but, on farther reflec tion, he perceived, that the name "memory of things" does not include the whole sphere of activity of the organ now under consideration. He observed, that persons who had this part of the brain large, possessed not only a great memory for facts, but were distinguished by prompt conception in general, and an extreme facility of apprehension; a strong desire for information and instruction; a disposition to study all branches of knowledge, and to teach these to others; and also, that, if not restrained by the higher faculties, such persons were naturally prone to adopt the opinions of others, to embrace new doctrines, and to modify their own minds according to the manners, customs, and circumstances with which they were surrounded. He therefore rejected the name, "memory of things," and he adopted the appellations "*Sens des choses, sens d'educabilité, de perfectibilité;*" to distinguish this faculty.

These observations of Dr. Gall apply chiefly to the part of the brain now designated by Eventuality; he did not treat of Individuality as a separate organ; and in his plates it is left without mark or number.

The function of this faculty is to take cognizance of motion or active phenomena, indicated by verbs. In such expressions as the ROCK *falls*, the HORSE *gallops*, the BATTLE is *fought*, the substantive springs from Individuality, and the verb from Eventuality. It prompts to investigation by experiment, while Individuality leads to observation. Individuality gives the tendency to personify abstract ideas, such as Ignorance or Wisdom; and Eventuality to represent them as acting. In a work written by an author with whom I was acquainted, and in whom both of these organs were large, Ignorance and Common-sense were represented as personages who addressed the people, excited them to action, and themselves performed a variety of parts; Ignorance "stole a march on Common-sense," who by dexterous expedients extricated himself from the difficulty. An author in whom Individuality is large and Eventuality small, will treat his subjects by description chiefly; and one in whom Eventuality is large and Individuality small, will na[illegible] actions, but deal little in physical description.

Sheridan possessed both organs large, with those of Size and Locality amply developed; and the following passage affords an example of the prominence which the physical appearances of objects obtain in his composition. Speaking of a woman and her husband, he says, "Her fat arms are strangled with bracelets, which belt them like corded brawn.—You wish to draw her out as you would an opera-glass.—A long lean man, with all his arms rambling, no way to reduce him to compass, unless you could double him up like a pocket rule.—With his arms spread he'd lie on the bed of ware, like a cross on a Good Friday bun.—If he stands cross-legged, he looks like a caduceus, and put him in a fencing attitude, you would take him for a chevau-de-frise,—to make any use of him, it must be as a spontoon or a fishing-rod.—When his wife 's by, he follows like a note of admiration.—See them together, one 's a mast, and the other all hulk,—she 's a dome, and he 's built like a glass-house;—when they part, you wonder to see the steeple separate from the chancel, and were they to embrace, he must hang round her neck like a skein of thread on a lacemaker's bolster; to sing her praise, you should choose a rondeau, and to celebrate him you must write all alexandrines."

In the busts and portraits of Pope, Individuality is greatly inferior in dimensions to Eventuality; and this author rarely excels in describing physical appearances, while he surpasses in representing action. The following lines from the Rape of the Lock are intended to describe a beautiful lady; but it will be observed that they represent action, condition, and quality, almost to the exclusion of substantive existence, with its attributes of form, color, size, and proportion.*

"Not with more glories in the etherial plain,
The sun first rises o'er the purpled main,
Than, issuing forth, the rival of his beams
Launched on the bosom of the silver Thames.
Fair nymphs and well-dressed youths around her shone;
But every eye was fixed on her alone.

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* Some acute and interesting observations by Mr. Hewett Watson, on the relation between the writings of these and other authors, and their cerebral organs, will be found in Nos. 24 and 25 of the Phrenological Journal.

On her white breast a sparkling cross she wore,
Which Jews might kiss, and infidels adore.
Her lively looks a sprightly mind disclose,
Quick as her eyes and as unfixed as those:
Favors to none, to all she smiles extends:
Oft she rejects, but never once offends.
Bright as the sun her eyes the gazers strike,
And, like that sun, they shine on all alike.
Yet graceful ease, and sweetness void of pride,
Might hide her faults, if belles had faults to hide:
If to her share some female errors fall,
Look on her face, and you 'll forget them all."

Rape of the Lock.

This organ is largely developed in children, and gives them an appetite for knowledge, in the form of stories and narratives. In practical life, it chiefly gives the talent of observing, recollecting, and describing action; in other words, of observing the occurrences of which history is composed, and of telling the story of what we know. When deficient, great difficulty is experienced in observing, recollecting, and describing active phenomena. Such a person may have his head filled with general impressions of conversations, without any precise ideas of the topics discussed; so that when he shall attempt to report what he has heard, he will discover that he cannot do so, from knowing no part of it distinctly.

When the organ is large, the individual will remember the precise statements of an author, whose works he has read; when small, he will recollect only the general import.

If Eventuality be large, and Concentrativeness deficient, the qualities of observation and narration may be possessed, but the narrative will resemble a description of figures in a carnival; it will be full of life, action, and incident, but deficient in onward continuity; with Concentrativeness large, the story would more nearly resemble a regular drama.

If Individuality be large, physical substances may be remembered vividly by it, their relations by Locality, and their causes and effects by Causality; but if Eventuality be deficient, extreme difficulty will be experienced in bringing together these items of information, and presenting them in the form of a natural narrative.

A person in whom this combination exists, and in whom Concentrativeness is large, will feel strongly the desire of communicating the quality of continuity to his narrative, and on important occasions he will produce it by laboriously writing down all the elementary ideas of his subject, by transposing them, by filling up, and striking out parts, until the whole shall cohere with neatness and consistency. Such a combination will fit its possessor for studying physical more successfully than moral science; because action is the primary element of the latter.

If Concentrativeness and Eventuality be both deficient, the literary or philosophical productions of the individual will be marked by omissions of important intermediate ideas; in oral discourses he will combine description with inference, without taking sufficient notice of modes of action; he will often wander from his subject; and, in short, he will display great knowledge of objects which exist, together with profound reflection on their relations, and yet be unsuccessful in conveying to the minds of his readers or auditors philosophical convictions, similar to those which exist in his own mind; and this will be owing chiefly to deficiency in the power of representing by Eventuality modes of action, and of giving, by Concentrativeness, continuity to the thread of his discourses.

Individuality, Eventuality, and Concentrativeness, are indispensable qualities to a successful teacher. I have never seen a person capable of interesting children and exciting their intellects, who was deficient in both the first and second. His manner of communicating knowledge is then vague, abstract and dry, altogether unsuited to their mental condition. These three organs large, combined with large Philoprogenitiveness, Benevolence, and Conscientiousness, and an active temperament, constitute the leading elements of a good teacher.

When both Individuality and Eventuality are large, the individual possesses two important qualities for general business. They confer that readiness of observation and talent for detail, which are essential to the management of affairs. The lawyer so endowed is enabled readily to apprehend the details of his cases, easily to recollect the principles of law, the dicta of legal authors, and the decisions of courts, as matters of fact; and to reproduce the whole in a connected narrative before a judge or jury. His power of applying principles to new cases, depends on the reflecting faculties; but although these be powerful, yet, if Individuality and Eventuality be deficient, he may feel great difficulty in preparation, and in the reproduction of his ideas. In point of fact, the most eminent practical lawyers, particularly in England, are distinguished by a great developement of these organs; which are equally necessary to the public speaker, to give him a command over the *materiel* or details of his subject, and to enable him to set it forth clearly and naturally to his audience. I have observed them large also in practical physicians; for, in the profession of medicine, prompt and accurate observation is one important element in excellence.

Both organs are large in authors who acutely observe objects that exist, and also life, manners, and occurrences, such as Le Sage, De Foe, and the Author of Waverley. They are essential to the composition of such works as Robinson Crusoe and Gulliver's Travels, in which a strong impression of reality is produced by a minute description of particular objects and actions. In a mask preserved in Dublin, and said to be that of Swift, the organs appear very large.

When both organs are small, the individual will retain only general ideas, and will experience great difficulty in becoming learned; he may see, hear or read many facts, but they will make only a faint impression, and soon escape from his mind; he will feel great difficulty in commanding, without previous preparation, even the knowledge which he possesses.

These faculties desire only to know existence and facts, and do not reason or trace relations. Hence a person in whom they are strong, and in whom the reasoning powers are deficient, gains his knowledge by questioning and observation. If we tell him two facts, which clearly imply a third, he will not naturally endeavor to find it out by his own suggestion, but will instantly put another question. Hence, also, the tendency of these faculties is to recollect facts, according as they occur, and not according to any philosophical relations between them. *Mrs. Quickly's* speech to *Falstaff* is a beautiful illustration of this kind of understanding. She is reminding him of his promise of marriage, and says, "Thou didst swear to me *on a parcel-gilt goblet, sitting in my dolphin-chamber, at the round-table, by a sea-coal fire, on Wednesday in Whitsun-week, when the Prince broke thy head* for likening his father to a singing man of Windsor; thou didst swear to me *then, as I was washing thy wound*, to marry me, and make me my lady thy wife. Canst thou deny it? Did not *good-wife Keech, the butcher's wife, come in then, and call me Gossip Quickly? coming in to borrow a mess of vinegar*; telling us, *she had a good dish of prawns;* whereby thou didst *desire to eat some; whereby I told thee, they were ill for a green wound*; and didst not thou, *when she was gone down stairs, desire me to be no more so familiarity with such poor people*, saying, that ere-long, they should call me Madam? And didst thou *not kiss me, and bid me fetch thee thirty shillings?* I put thee now to thy book-oath; deny it if thou canst."* Here is a surprising variety of trivial circumstances, connected by no link but that of the order of their occurrence. Yet every one must perceive, that they have an effect in producing the impression of reality on the mind. We feel it impossible to doubt the promise, which is substantiated by so particular a detail of facts, every one of which, indeed, becomes, as it were, a witness to its truth.

Dr. Spurzheim, in treating of Eventuality, says, "This faculty recognises the activity of every other, whether external or internal, and acts in its turn upon all of them. It desires to know every thing by experience, and consequently excites all the other organs to activity; it would hear, see, smell, taste, and touch; is fond of general instruction, and inclines to the pursuit of practical knowledge. It is essential to editors, secretaries, historians and teachers. By knowing the functions of the other powers, this faculty contributes essentially to the unity of Consciousness. It seems to perceive the impressions, which are the immediate functions of the external senses, and to change these into notions or ideas. Moreover, it appears to be essential to attention in general, and to the recognition of the entity *myself* in philosophy. Its sphere of activity is very great, and every philosophic system has taken account of some of its operations."*

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* Second Part of King Henry IV. Act ii. scene 2.

Dr. Gall regarded the part of the brain here named Eventuality, as the organ of "the sense" of things in man, and of educability or perfectibility, in the lower animals. While he admits that every faculty is susceptible of improvement by education, he forms a scale of the heads of animals, from the crocodile and frog up to man, with the view of proving, that the more this part of the brain is developed in each species, the higher are its natural susceptibilities of being tamed and taught. Camper and Lavater, he adds, had made similar observations; but they did not distinguish special faculties and organs. Dr. Spurzheim acknowledges the correctness of the facts stated by Dr. Gall, that tame animals have fuller foreheads than wild ones, and that animals are generally tameable, in proportion to the developement of their foreheads; but conceives, that Dr. Gall attributes to a single faculty, manifestations which depend on intellect generally. Eventuality does not fill the whole forehead; and the other organs, situated there, also contribute to the effects observed by Dr. Gall. The observation of the latter, therefore, is deficient in precision, rather than in truth. Dr. Gall regarded the organ of Benevolence, in the lower animals, as the source of gentleness of disposition, and described it as situated in them in the middle of the *upper* part of the forehead. The organ of Educability, which is distinct, he says, is situated in the middle of the *lower* part of the forehead.

The older metaphysicians do not treat of any faculty distinctly analogous to Eventuality; but Dr. Thomas Brown,† whose acuteness I have so often praised, admits a power of the mind under the name of "Simple Suggestion," which corresponds very closely with it; and he reduces Conception and Memory of the metaphysicians to this principle of Simple Suggestion.—The organ is established.

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* Phrenology, p. 323.

† Lectures, vol. ii. p. 192.

31.—TIME.

THE power of conceiving Time, and of remembering circumstances connected by no link, but the relation in which they stand to each other in chronology, and also the power of observing time in performing music, is very different in different individuals. Many observations have been made on this organ; and it is now ascertained. The special faculty seems to be the power of judging of time, and of intervals in general. By giving the perception of measured cadence, it appears to be one source of pleasure in dancing. It is essential to music and versification.

Mr. Simpson, in an excellent essay on this faculty, published in the Phrenological Journal,* states, that "We have found the organ largely developed in those who show an intuitive knowledge of the lapse of minutes and hours, so as to name the time of the day, without having recourse to the clock; and also in those who perceive those minuter divisions, and their harmonious relations, which constitute rhythm, and who, when they apply the tact to music, are called good timists,—a distinct power from that of the mere melodist, and often wanting in him; while it is matter of the commonest observation, on the other hand, that this sensibility to rhythm, called Time, is marked in those who have a very moderate perception of melody. Such persons are invariably accurate dancers, observing delicately the time, though indifferent to the melody of the violin. We have made many observations, both in persons who have both Time and Tune large, and in those who have only one of them in large endowment, and we have never found the manifestations fail. Very lately we were struck with the uncommon prominence of the organ of Time in a whole family of young people, and inquired whether or not they danced with accuracy, and loved dancing? We were answered, that they did both in a remarkable degree; and, as we lived near them for some weeks, we observed that dancing was a constant and favorite pastime of theirs, even out of doors. Their dancing-master informed us, that the accuracy of their time exceeded that of any pupils he had ever taught. There was thus evident in these young persons an intense pleasure in accurate rhythmical movements."

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* Vol. ii. p. 134.

The fact that many Deaf and Dumb persons dance with precision, and much pleasure, is thus accounted for by Mr. Simpson. "That Time," says he, "may be marked with the utmost precision to the eye, is a fact familiar to every one who has seen a regiment of soldiers go through the manual and platoon exercise, without a single word of command, by obeying the movements of the fugle-man, who gives the time to the eye; and who that has seen this done by a practised corps, is ignorant that there is great pleasure in witnessing the exquisitely timed movements of the exercise? Now, suppose a dancer, unaided by music, were to keep his eye on any person or object which was marking dancing-time to his sight, it cannot be doubted that he could dance to it. A deaf person could perform the manual exercise from the time given by the fugle-man; and just as easily could a deaf person dance with his eye upon the violin-bow, or the player's arm, or on the movement of the drumsticks.

"It is unnecessary to go farther, and show that the sense of touch may be the channel through which the organ of Time is excited, as well as the sense of hearing and sight. No one will dispute that a soldier could perform the manual exercise to a succession of taps on the shoulder; and to time, in the same way given, might a person dance.

"What we have said is confirmed by fact. It is well known that the deaf and dumb do dance, taking the time by the eye, either from the violin-player's arm, or at second hand, but instantaneously from the other dancers. We are acquainted with a young lady and gentleman in England, both of rank, who are deaf and dumb, and who, in addition to many other accomplishments, dance with the greatest grace and precision."—See also Phren. Journal, vol. iv. p. 509.

The origin of the notion of Time has greatly puzzled the metaphysicians. Lord Kames says, that we measure it by the number of ideas which pass in the mind; but experience contradicts this supposition, for time never appears so short as when ideas are most numerous, and pass most rapidly through the mind. The idea, that it depends on a separate faculty and organ, on the other hand, is in harmony with this fact; for, as the organ of Time may remain inactive, while the others are vividly excited, it follows. that our perceptions of duration will, on such occasions, be indistinct, and time will, in consequence, appear brief.

The talent of using tenses properly in composition appears to depend on this organ. Probable.

32.— TUNE.

Dr. Gall mentions, that a girl named Bianchi, of about five years of age, was presented to him, and he was asked for what talent she was most distinguished. He discovered in her no indication of an extraordinary memory; and the idea had not then occurred to him, that the talent for music could be recognised by the conformation of the head. Indeed, he had not at that time ascertained the different kinds of memory; but his friends nevertheless maintained, that the young Bianchi had an extraordinary memory for music, and, as he had not discovered that talent in her, they inferred that the doctrine which he taught of external signs for different kinds of memory was unfounded. This child repeated whatever she heard sung or played on the piano, and recollected whole concerts if she had heard them only twice. Dr. Gall asked if she learned every thing by heart with equal facility, but he was told that she possessed this astonishing memory in music alone. He concluded that a well marked difference exists between memory for music, and the other kinds of memory with which he was then acquainted, and that every kind has its distinct organ. He prosecuted his observations with fresh ardor, and at last discovered that the talent for music is connected with the organ now under discussion. He calls it, "*Le sens des rapports des tons;*" "expression," says Dr. Gall, "qui rattache la manière dont l'intellect du musicien met en œuvre les rapports des tons à la manière d'agir des sens en général."

The organ of Tune bears the same relation to the ears, which the organ of Color does to the eyes. The ear receives the impressions of sounds, and is agreeably or disagreeably affected by them; but the ear has no recollection of tones, nor does it judge of their relations; it does not perceive the harmonies of sound; and sounds, as well as colors, may be separately pleasing, though disagreeable in combination. A friend, in a letter written from India, formerly quoted, says, "Melody is the pleasure arising from successions of simple sounds suited to each other. Harmony is that arising from *combined* sounds, or from several striking the ear simultaneously, as in a band playing different parts. The former requires much less of the organ than the latter; and hence the Scotch with no great Tune are melodists, but nothing as musicians."

A correspondent of the Phrenological Journal, vol. viii. p. 216, mentions that "he has a most singular tendency to compare one thing with another; for instance, if he hears the piano played, every sound seems to resemble a particular color, and so uniform is this, that he thinks he could almost make a gamut of colors. Some notes are yellow, others green, others blue, &c." In him Comparison is large, but neither Coloring nor Tune are so.

A great developement of the organ enlarges the lateral parts of the forehead; but its form varies according to the direction and form of the convolutions. Dr. Spurzheim observes, that, in Glück, and others, this organ had a pyramidal form; in Mozart, Viotti, Zumsteg, Dussek, Crescentini, and others, the external corners of the forehead are enlarged, but rounded. Great practice is necessary to be able to observe this organ successfully; and beginners should place together one person possessing a genius for music, and another who can scarcely distinguish between any two notes, and mark the difference of their heads. The superior developement of the former will be perceptible at a glance. The faculty gives the perception of melody; but this is only one ingredient in a genius for music. Time is requisite to a just perception of intervals, Ideality to give elevation and refinement, Secretiveness and Imitation to produce expression; and Constructiveness, Form, Weight, and Individuality, are requisite besides, to supply mechan-cal expertness, necessary to successful performance. The largest organ of Tune will not enable its possessor to play successfully on the harp, if Weight be deficient; the capacity of communicating to the string the precise vibratory impulse requisite to produce each particular note will then be wanting.

Dr. Gall mentions that he had examined the heads of the most celebrated musical performers and singers, such as Rosini, Catalani, &c. and found the organ uniformly large, and that the portraits and busts of Hayden, Glück, Mozart, &c. show it also largely developed. I have examined the heads of Madame Catalani, and many eminent private musicians, and found the organ confirmed in every instance. Dr. Gall remarks farther, that a great developement is not to be expected in every ordinary player on a musical instrument. With a moderate endowment, the fingers may be trained to expertness; but when the soul feels the inspiration of harmonious sounds, and the countenance expresses that voluptuous rapture which thrills through the frame of the real musician, a large organ will never be wanting.

"Il me parait," continues Dr. Gall, "que les hommes qui sont capables de déduire les lois de la composition dès lois des vibrations sonores, et des rapports des tons, et d'établir ainsi les principes les plus généraux de la musique, doivent être doués en même temps *d'un organe des nombres* très develloppé; car l'exercise de ce degré du talent musical exige, sans contredit, beaucoup de calcul; aussi la circonvolution inférieure de l'organe musical, la plus large de toutes, se continue immédiatement dans l'organe des nombres. Céci explique pourquoi on peut être excellent musicien, et n'avoir pas le talent de la composition; être grand compositeur sans etre en meme temps grand musicien."*

The heads of Italians and Germans in general are broader and fuller at the situation of this organ than those of Negroes, Otaheitians, Spaniards, Frenchmen and Englishmen, in general; and musical talent is more common in the former than the latter.

Mr. Scott has published in the Phrenological Journal,† two

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* Sur les Fonctions du Cerveau, tome v. p. 120.

† Vol. ii. pp. 170 and 556.

As boys advance from puberty to manhood, and just at the when the head is receiving the largest accessions, the voice is ged from the small shrill pipe of the boy to the grave tones of man.

In men who have small or moderately-sized heads, particu- y if the lower propensities are moderately developed, the voice roaches to the shrill pitch and softness of a woman's.

"In women who have large heads, particularly if the lower pro- sities are fully developed, the voice is generally grave, and pproaches in its tones to a man's. I have been informed, that it s been observed of women who are subject to *nymphomania*, that, when under the influence of a paroxysm, their voices are arsh, low, and rough, like those of men. This fact, if sufficiently stablished, would go far to prove, that low and rough notes are the natural language of the lower propensities.

"So far I have observed in general; but I would wish that those who have an opportunity would make observations which may confirm the above, or show whether there are any exceptions to the rule. I do not recollect to have seen any. It would be desirable to ascertain, whether all the bass-singers in our bands and choirs have large heads, and the counter-tenors among men small ones; or whether the depth of voice is in proportion to the developement of the cerebellum;—whether the women singers, whose voices are pitched low, have larger heads, or a fuller endowment of the lower propensities, than those who have treble voices.

"It is undoubted, that the quality of tone, as well as the pitch, depends considerably on the nature of the developement. In women who possess Combativeness and Destructiveness well developed, the voice, though shrill, is sharp, and the tones pierce the ear like a sword. In women who are given to scolding, this arp piercing quality of voice will invariably be noticed; and it rms one of the most unpleasant circumstances attending it. If lady would utter the same words in a moderate tone, the nui- ce would not be nearly so great. In like manner, in men who e large Destructiveness, if the head is otherwise large and well-head, small cerebellum, and the other propensities below an average, whose voice is nevertheless a deep rich bass. It is certain that the developement of brain has some, and even an important influence on the quality of the voice: but so have the lungs and larynx; and it is still unascertained how much of the actual effect is attributable to each.

When an average developement of Tune is combined with high intellectual organs, the superior objects with which these are conversant, generally attract the mind, and music is little cultivated. When, on the other hand, these are small, and Ideality, Hope, Benevolence, Veneration, and Wonder, which Tune is particularly calculated to gratify, are large, the tendency to practice music is much stronger. Hence, with the same absolute developement of this organ, very different practical results may ensue; but this is in exact accordance with the principles of the science; for it is the *predominance* of particular organs in an individual that decides the bias of his mind; the organs, largest in size, always tending most powerfully to seek gratification.

As the organ of Tune is frequently developed only in a very moderate degree, and is sometimes almost entirely defective, it is obvious that the fashionable practice of teaching music to young ladies indiscriminately, without regard to the size of the organ, must be mischievous, absurd, and productive of misery to untalented pupils. Dr. Neil Arnot—who is no phrenologist—feelingly alludes, in his Elements of Physics, to the prejudice which "in the present day, condemns many young women possessed of every species of loveliness and talent except that of *note-distinguishing*, to waste years of precious time in an attempt to acquire this talent in spite of nature; and yet," he adds, "when they have succeeded as far as they can, they have only the merit of being machines, with performance as little pleasing to true judges as would be the attempt of a foreigner, who knew only the alphabet of a language, to recite pieces of expressive poetry in that language. Such persons, when liberty comes to them by age or marriage, generally abandon the offensive occupation; but tyrant admirable Essays "on Music, and the different faculties which concur in producing it," which will be found highly deserving of attention. He conceives Tune to be the primitive faculty which distinguishes, "1*st*, That agreement of component vibrations in simple sounds, which constitutes them *musical; 2d*, That relation in separate sounds emitted together, which constitutes *harmony;* and, 3*d*, That relation in successive notes, which constitutes melody." He then considers the *auxiliary faculties* requisite to the practical musician (namely those before enumerated,) and points out the effect of each in conducing to musical genius. "Imitation," says he, "is necessary, particularly to the vocal performer, to enable him to imitate the sounds he hears, and to give, by his own vocal organs, a correct copy of the music which he wishes to execute. Accordingly, it is matter of observation, that all singers who sing naturally and easily, possess a considerable organ of Imitation." He then enters, at considerable length, into the subject of musical expression. "It seems to me," says he, "although I do not pretend to have made observations sufficiently accurate and numerous to prove the fact, that there is a correspondence in all cases between the voices of men and women, and their cerebral developement. The subject is a very curious one, and I mention it more for the purpose of inducing others to make observations, than from any value I attach to any observations of my own. Some facts there are, however, which are matters of common notoriety, and which go far to prove that there is at least a general correspondence; and further light might, doubtless, be thrown upon it, by more accurate and minute observers.

"In the first place, it is a general rule, that the heads of women are comparatively smaller than those of men, and that their voices are, in a corresponding degree, smaller and shriller than the male voice.

"Boys under puberty, who have smaller heads than full grown men, have voices small, shrill, and soft, like a woman's.

"The voices of children of both sexes, but particularly girls, are shriller than even the adult female voice.

motion to another person; she was then as well as usual, only somewhat fatigued.

"On Monday, 24th April, she still complained of pain in the situation of the organ of Tune; and stated, that she had been dreaming a great deal of *hearing the finest music;* that she felt quite excited by it, and could not even now get the impression out of her head. The day passed on, however, and nothing remarkable occurred.

"On Tuesday I found that I had been rather anxiously expected. During the night the young lady had been tormented with the recurrence of the musical dreams, during which she heard and performed the most beautiful airs, with a distinctness which surpassed those of the preceding night. These dreams continued for some hours, and left such an impression, that on awaking she thought she could almost note down one piece of composition which had particularly pleased her. But what is very remarkable, the excessive excitement of the faculty of Tune had now reached a height that could not be controlled; the patient felt, not to say a desire only, but a *strong and irresistible passion or craving* for music, which it was painful beyond endurance to repress. She insisted on getting up, and being allowed to play and sing; but that being for many reasons unadvisable, she then begged to have a friend sent for to play to her, as the only means of relief from a very painful state; but shortly after the craving of the faculty became so intolerable, that she got hold of a guitar, lay down upon a sofa, and fairly gave way to the torrent, and, with a volume, clearness, and strength of voice, and a facility of execution, which would have astonished any one who had seen her two days before, she sung in accompaniment till her musical faculty became spent and exhausted. During this time the pain at the angles of the forehead was still felt, and was attended with a sense of fulness and uneasiness all over the coronal and anterior parts of the forehead. Regarding all these phenomena as arising from over-excitement chiefly of the organs of Tune, I directed the continued local application of cold, and such other measures as tended to allay the increased action, and soon after the young lady regained her ordinary state, and has not since had any return of these extraordinary symptoms.

"In this case, the order in which the phenomena occurred, put *leading* queries on my part, or exaggeration or deception on the part of the patient, alike out of the question. The pain in the organ was distinctly and repeatedly complained of for many hours (at least 36) BEFORE the first night of dreaming, and for no less than *three days* before the irresistible waking inspiration was *felt*. When my attention was first drawn to the existence of the pain, I imagined it to arise from an affection of the membranes covering that part of the brain, and had no conception that it was to terminate in any such musical exhibition as afterwards took place; and, in fact, although the young lady had mentioned her previous melodious dreams, my surprise was quite equal to, although, thanks to Phrenology, my alarm was not so great as, that of her relations, when, on entering the house on the morning of Tuesday, the 25th, I heard the sound of the guitar mingling with the full and harmonious swell of her own voice, such as it might show itself when in the enjoyment of the highest health and vigor."

Dr. Spurzheim mentions, that the heads and skulls of birds which sing, and of those which do not sing, and the heads of the different individuals of the same kind, which have a greater or less disposition to sing, present a conspicuous difference at the place of this organ. The heads of males, for instance, and those of females of the same kind of singing birds, are easily distinguished by their different developement. The organ is large in Haydn, Macvicar; small in Sloane, and remarkably deficient in Ann Ormerod. This girl was admitted, at twelve years of age, into the asylum for the blind at Liverpool, and during two years, means were unsparingly employed to cultivate and improve any musical talent which she might possess, but "with such decided want of success, that her teachers, Mr. Handford and Mr. Platt, men of unceasing perseverance, and constantly accustomed to the most stubborn perverseness, were at last under the necessity of abandoning the attempt altogether."—Phren. Journ. vol. ii. p. 642. The figure represents her head, the organ of Tune being thrown into the outline on her left side, and the head of Handel, the organ being brought into line on his right side. Established.

HANDEL.

Tune large.

ANN ORMEROD.

Tune very small.

33.—LANGUAGE.

THE history of the discovery of this organ has already been given in the introduction, page 44.

A large developement of this organ is indicated by the prominence and depression of the eyes, this appearance being produced by convolutions of the brain, situated in the posterior and transverse part of the upper orbitary plate, pressing the latter, and with it the eyes, more or less forward, downward or outward, according to the size of the convolutions. If the fibres be long, they push the eye as far forward as the eyebrows; if they are only thick, they push them toward the outer angle of the orbit, and downwards.* When the knowing organs are very large, and the eyebrows project, the eyes may *appear* less prominent than they really are. The projection of the eyes over the cheek-bone, and their depression downwards, are the proper signs of the organs being large.

The functions of this organ will be understood by a short elucidation. The different faculties being active, produce desires, emotions, and intellectual conceptions. The mind wishing to communicate a knowledge of these to other individuals, can accomplish this end only by making *signs* expressive of their existence. These signs may consist of the peculiar gestures, looks, and cries, that naturally accompany the activity of the several faculties, and which being part of our constitution, are universally understood, and constitute what is termed natural Language; for example, *nature* has formed an association betwixt the external appearance of misery, and the faculty of Benevolence, so that, on the presentation of the appearance, the faculty starts into activity, and generates the emotion of pity: She has associated the faculty of Wit with external objects, so that, on the presentment of certain circumstances, laughter is instantaneously excited. These signs require only to be presented, and they are understood in all countries, and by all nations.

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* The organ of Form produces only *distance between* the eyes; without rendering them prominent, or pushing them downward.

But mankind possess the power of inventing and establishing *arbitrary signs* to express their feelings and conceptions. For example, the words Love, Compassion, and Justice, are mere conventional signs, by which we in Britain agree to express three internal feelings or sentiments of the mind; and there is no natural connexion betwixt the signs and the things signified. The metaphysicians might attribute this power to Association; but we observe it to belong to the faculty of Language. Persons possessing this faculty strongly, have a great natural power of inventing arbitrary signs, and of learning the use of them, when invented by others. But this faculty gives the capacity of learning the *signs alone*, and the *meaning* of them is acquired by other faculties: If a horse, for instance, is presented to the mind, the faculty of Language gives the desire to find a name or sign, by which to indicate the conception of it, and also the power of associating the appearance of the object, with the sound or name when invented. But the meaning or signification which the word will embrace, will depend on the perfection of other faculties. For example, the faculty of Form will judge of the form of the horse; Size, of its dimensions; Coloring, of its color. Now, a blind man, by aid of the faculty of Language, may learn to connect his own notions of a horse with the sound of the name; but it is obvious that his conceptions must be very different from those attached to it by a person who sees; for the blind man could not judge of its color at all, and not very correctly of its form and size. In the same way, any one having the faculty of Language, may learn the occasions and manner in which the word *justice* is generally used; but how imperfect must be the meaning attached to it, in the mind of a person like David Haggart, who was extremely deficient in the organ of Conscientiousness, compared with the notion attending it in the mind of a person in whom that organ is extremely large?

Every metaphysical author complains of the ambiguity of words, and shows how the vagueness of their signification retards the progress of moral and intellectual science; and the exposition now given shows whence this vagueness arises. Before individuals can attach precisely the same conceptions to words expressing feelings and judgments of the understanding, they require to possess a similar combination of faculties, and as no two individuals do possess an exactly similar combination of faculties, so as to be capable of feeling and judging alike; there will be shades of difference in the meaning attached by different persons to such terms, in spite of every effort to define them. In consequence of this difference in faculties, the very definition itself is differently apprehended. In mathematics and algebra, the things indicated by the signs are not feelings, which vary in every individual, but proportions and relations of space and quantity, which have a fixed and definite existence, and which, if apprehended at all, can be conceived only in one way. Hence the precision of the Language of these sciences compared with that of metaphysics or moral philosophy.

If these principles be correct, they demonstrate the impossibility of framing a philosophical language, applicable, with perfect precision, to moral disquisitions. To apprehend the very definitions of the words, we must be able to experience the sentiments which they are intended to indicate; and many persons are capable of doing so only in a very imperfect degree. In attending to the style of an author, he will be found to use those words with most precision and felicity, which express mental feelings or operations naturally vigorous in himself. Mr. Stewart, for example, writes with great beauty and correctness in narrative, and on every topic connected with moral sentiments; but his style becomes loose and inaccurate when he enters upon original abstract discussion, requiring the activity of the higher intellectual powers. I infer from this, that, in him, the knowing and sentimental organs were more amply developed than those of reflection. Moore uses epithets and illustrations, expressive of attachment, with great frequency and inimitable beauty; and we may conclude, that, in him, Adhesiveness, which gives such feelings, is very strong. John Bellingham, on the other hand, in his voluminous memorials, petitions and letters, was continually writing about justice and injustice, about cruelty and oppression, exercised towards him; but the acts which he specifies are discovered by every well constituted mind, not at all to possess the character which he ascribes to them, and his writings on these points are replete with the grossest abuses of words. This, I apprehend to arise from the great deficiency of Conscientiousness which is discernible in his head. In professional practice, also, every lawyer meets with individuals who pretend to be ardently desiring justice, and who speak incessantly about it, but who evidently do not perceive at all what it is; the selfish faculties in their case so far predominating over Conscientiousness, that they never have correct notions of the nature of justice. The same thing happens in regard to religion. Many talk about it, and against it, without in the least comprehending the object of their vituperation. In like manner every one will acknowledge in words that charity is a duty; but, on inquiring at different persons what constitutes charity, we shall find their notions of the meaning of the word, and of the duty also, to vary exceedingly, according to their developement of Benevolence, in proportion to Acquisitiveness and Self-Esteem.*

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* These principles enable us to explain, in a simple manner, the source and nature of eloquence. It is a trite observation, that every passion is eloquent, that is to say, any propensity or sentiment being vividly active, excites the faculty of Language to give it utterance; and as the mental emotion is strongly felt, the words partake of the force, and are distinguished by the precision, which characterise the feeling. Popular eloquence draws largely from the propensities and sentiments, and hence in many distinguished orators we do not discover so large a developement of the intellectual organs, as those would expect who imagine that oratory is altogether an intellectual product; but in them an ample endowment of the organs of the propensities and sentiments will be discovered. The Phrenological Society possesses masks of Burke and Curran. The former is

The power of associating, by means of the faculty of Language, conceptions of external signs, is limited, however, in one respect. Any *indifferent* object may be selected and used as the arbitrary sign of a propensity, feeling or conception; but if the object stands already in a *natural* relation to any faculty, it cannot, except with great difficulty, be made the arbitrary sign of an opposite emotion. For example, we might, by a mutual understanding, constitute a square figure the artificial sign of the emotion termed *rage*. After the agreement was understood, that figure would suggest the notion of rage, just as well as the letters now composing that word, which are mere marks, placed in a certain order: But, if we were whimsical enough to make the outline of a sweet and smiling countenance, which likewise is merely a species of form, the sign of this emotion, we could not, except with great difficulty, learn to associate the idea of rage with that figure, for it is already the natural sign of emotions, entirely opposite; it would excite Benevolence *directly*, more forcibly than Destructiveness indirectly, through the medium of Language; it would call up ideas of joyfulness and innocence, rather than of anger and cruelty. In the same way, we might associate feelings of veneration, pity, affection or grief, with soft and *slow* notes of music, because these notes, which produce emotions of a specific kind themselves, may become arbitrary signs of any other emotions of *a homogeneous kind*. But it would be difficult to form an association, by which soft, slow and delicate tones, would become the artificial signs of violent rage, jealousy and fury; because the *natural* character of such sounds is directly opposite to the character of such feelings.

Philosophers have written voluminous disquisitions on the influence of words on thought; but if the view, now presented, be correct, feelings and conceptions must, in every instance, *precede* words; and the invention of a term, for which no idea exists, instead of being a great step towards the advancement of know-

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by much the most distinguished for intellect in his printed remains, and his forehead is the best developed; but the impression made by Curran on a popular assembly was perhaps the greater of the two. On analyzing Curran's orations, however, no higher degree of reflecting power will be discovered in them than is indicated by his mask.

ledge, would be a simple absurdity. It is true that the language of any nation is a correct index of its attainments; but this happens, because, in proportion as the people acquire notions, they invent words to express them, and hence their Language is commensurate with their mental states.

The art of *writing* greatly facilitates the progress of knowledge; but it does so only by giving precision to words and permanence to thought. Written words are to thinking what cyphers are to calculation; they record our past attainments, and enable us to advance, unincumbered, in the path of discovery: in no instance, however, can they possibly precede the march of ideas. The new nomenclature of chymistry smooths the study of that science; but the nomenclature itself was the *result* of correct and enlarged ideas of the nature and relations of chymical substances, and could not possibly have been formed before these were obtained.

Persons who have a great endowment of the organ of Language abound in words. In ordinary conversation their language flows like a copious stream,—in speech they pour out torrents. When this organ is extremely large, and those of reflection small, the individual is prone to repeat, to the inconceivable annoyance of the hearer, the plainest sentences again and again, as if the matter were of such difficult apprehension, that one telling was not sufficient to convey the meaning. This practice appears to originate in an immoderate power and activity of the faculty of Language, so great, that delight is felt in mere articulation, independent of reflection. The same combination produces a verbose, cumbersome, and inelegant style of literary composition. Thomson's Seasons are chargeable with a redundancy of words, and, in the portraits of the author, the organ appears very large. In "Dramas of the Ancient World," by David Lindsay, we meet with examples of this kind of writing.

"My gracious kinsman
What good occasion now hath brought thee hither?
NOAH.—Nothing of good, for good is flown for ever
Away from this *stained* world, and *spotless* truth,
And *weeping* mercy, veiling their *bright* looks

> With their *spread* pinions, have forsaken earth,
> And sought a refuge at the sacred foot
> Of the ALMIGHTY's throne."
>
> *The Deluge*, p. 16.

Another example occurs in the following passage, extracted from a periodical publication.

"We hope it will prove interesting to our readers, occasionally to take a *popular sketch* of the *brilliant success* attending the *meritorious activity* of the *respectable circle* of *scientific chymists*, whose pursuits, if judiciously exhibited, are fitted to interest every mind endowed with intellectual curiosity."

When the organ is very small, there is a want of command of expression, a painful repetition of the same words, and a consequent poverty of style, both in writing and speaking. The style of that author is generally most agreeable, in whom the organs of Language and of Reflection bear a just proportion to each other. If the intellectual powers be very acute and rapid, and Language not in equal proportion, a stammer in speech is frequently the consequence. Individuality and Comparison greatly assist this faculty, when applied to the acquisition of foreign languages and grammar. I have observed that boys who are duxes in classes for languages generally have Individuality, Eventuality, and Comparison large; and that this endowment, with moderate Language, accomplishes more, in the way of scholarship, than a large developement of the latter organ, with a small endowment of the former. Such individuals have a great facility in recollecting rules, as matters of fact and detail, in tracing etymologies, and in discriminating shades of meaning; and the combination alluded to gives them great readiness in using their knowledge, whatever the extent of it may be.

The doctrine before laid down, that the signification of words is learned by other faculties, removes an apparent difficulty that sometimes presents itself. A person with a moderate organ of Language will sometimes learn songs, poetry, or particular speeches by heart, with considerable facility and pleasure; but in all such cases, the passages so committed to memory will be found highly to interest his other powers, such as Ideality, Causality, Tune, Veneration, Combativeness, Adhesiveness; and the study and recollection of vocables only is to him difficult and disagreeable. To a person, on the other hand, in whom the organ is decidedly large, mere words are interesting, and he can learn them without caring much about their meaning. Hence, also, a person with a moderate organ of Language, and good reflecting organs, may, by perseverance, learn languages, and attain to proficiency as a scholar; but he will not display copiousness, fluency, and richness of expression in his style, either in his own or in a foreign tongue.

It is difficult to determine precisely, on what powers the talent for learning the *spirit* of languages depends. The fact is certain, that some individuals easily learn the spirit of different languages without having a great memory for words; while others readily acquire words, without catching the spirit of any language. Dr. Gall admits two organs of language; one he names "*Sens des mots, sens des noms, memoire des mots, memoire verbale;*" and the other "*Sens du langage de parole; talent de la philologie;*" and attributes to the latter the talent of philology, and acquiring the spirit of languages. The former organ he describes as lying on the posterior half of the super-orbitar plate, and, when large, it pushes the eyes outwards; it gives a talent for learning and recollecting words; and persons possessing it large recite long passages by heart, after reading them once or twice. The latter organ, says he, is placed on the middle of the anterior part of the super-orbitar plate, and the eyeball, in consequence, not only projects, but is depressed; the depression producing the appearance of a bag, or folding in the lower eye-lid. Persons possessing this form of eyes, he adds, have not only an excellent memory of words, but a particular talent for the study of languages, for criticism, and, in general, for all that has reference to literature.* Dr. Gall states, at the same time, that the determination of the size of the organ of words is attended with much difficulty; as, from its situation, it may extend itself to the sides, as well as forwards, increasing, in the former case, the general breadth of the head across the temples, or even between the eyes; so that much remains to be ascertained in regard to it.

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* Sur les Fonctions du Cerveau, tome v. p. 18 and 30.

Dr. Spurzheim, on the other hand, admits only one organ of Language, lying transversely on the posterior portion of the superorbitary plates; and holds, that it takes cognizance both of words and the spirit of languages. "It seems to me," says he, "that the organ of words must have its laws as well as those of Color, Melody, or any other faculty. Now, the law of words constitutes the spirit of language. I am satisfied," he continues, "that this opinion is correct; because the spirit of every language is the same, just as the essence of all kinds of music is alike; that is, the laws or principles of music and of language rule universally, and are constant; they are only modified in different nations, by modifications in their organs, and dissimilar combinations of these in each." *

I am disposed to coincide with Dr. Spurzheim in this view; and, perhaps, by analyzing the source whence the structure of Language proceeds, we may obtain some light on the origin of a taste for the spirit of languages, as distinguished from the power of learning and recollecting words.

Language, then, expresses merely the feelings and conceptions formed by the various primitive faculties, acting separately, or in combination. Now, let us imagine the cerebral developement of a nation to be distinguished by large organs of the Propensities, Sentiments, and Knowing Faculties, small Reflecting organs, and little Secretiveness. Their language being the spontaneous growth of such a combination, would naturally abound in words expressive of simple feelings, conceptions of individual objects, and their qualities; while it would be poor in terms of abstract relation, conceived by the faculties of reflection. For the same reason, the transitions of such a language would be like those in *Mrs. Quickly's* speech, rapid, and in the order of the casual occurrence of the circumstances which excited the ideas; Secretiveness being small, there would naturally be little involution in the arrangement of the words. Suppose, on the other hand, that in another nation Secretiveness, and the Reflecting organs, predominated, the genius of their Language would differ widely from that of the people first described. Their expressions for discriminating individual conceptions would be fewer, while their stock of words and phrases, designative of abstract relation, would be more extensive, and the general structure of their sentences would be more involved. Now, suppose two individuals, with equal organs of Language, and consequently equal power of learning words, as mere signs, to possess, the one a head like the former, and the other a head like the latter people, and that they attempted to learn these different languages, it appears probable, that the one with the first mentioned developement would find the genius of the first language the most easy and natural to him; he would acquire its forms of collocation, its niceties of designation, and all its prettinesses, with facility and delight, because they would coincide with the modes of feeling and thinking of his own mind. If, on the other hand, his attention were directed to the language of the second people, he would meet with greater difficulties. Although he might master the words, he would not find the idioms natural; and the forms of expression depending on the reflecting powers, and likewise the involution introduced by Secretiveness, would appear to him extremely intricate and unintelligible; he would be obliged to learn them by *rule*, through defect of instinctive tact in apprehending them; and rules alone never produce a really excellent linguist. The second language, on the other hand, would come quite naturally to the other individual possessing a head like that of the people who invented it.

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* Phrenology, p. 327.

If these views be correct, the talent for learning the genius or spirit of different languages will depend upon the developement of the organ of words, taken in conjunction with the power of the individual to enter into the feelings, and form the precise kinds of intellectual combinations, of different nations; or, in short, upon the capacity to go out of himself, and to enter into the mental states of others; and this is conferred chiefly by Secretiveness, Imitation, Individuality and Eventuality, aided of course by the other primitive faculties. This will be best understood by an example. If two individuals have an equal developement of all the organs except the four now mentioned, which the one possesses in a high degree, and the other only to a very limited extent, the former will have a power of entering into the feelings and reflections of others, which the latter would want; and this power, according to the view now presented, would render him more apt in acquiring the spirit of different languages. This, however, is merely a theory, thrown out for the consideration of the reader, but it has been suggested by facts. I know an individual, who has an excellent developement of many of the organs, but is a very decided character, and possesses little of the talent of entering into, or accommodating himself to the feelings of others, and he experienced an inconceivable difficulty in acquiring the simplest French idioms. I know another young gentleman who was in the same situation in regard to Latin, and who has little versatility. In them, the organ of Language is rather deficient; but then I have met with several persons in whom the organ was equally deficient, and who possessed the power of learning foreign idioms; and in them, on the other hand, the power of amalgamation with the mental states of others, was decidedly greater, and their organs of Secretiveness, Imitation, Individuality and Eventuality, were larger.

Although the theory of the talent for philology is involved in considerable obscurity, it is quite certain that the ready command of words in speech or writing is in proportion to the developement of the organ situated above the super-orbitar plate, and that a fluent orator or author is never found with a deficiency of it.

Numerous cases are on record of the power of using words having been impaired by disease, when the ability to articulate, and the powers of perception and judgment, remained entire.* In the Phrenological Transactions, Mr. Hood of Kilmarnock has communicated a very interesting instance of this kind which fell under his own notice as medical attendant. The patient, a sober and regular man of 65 years of age, possessed of the ordinary knowledge of written and spoken language, on the evening of 2d September 1822, suddenly began to speak incoherently, and became quite unintelligible to all those who were about him. "It was *discovered that he had forgotten the name of every object in nature.* His recollection of *things* seemed to be unimpaired, but the *names* by which *men* and *things* are known, were entirely obliterated from his mind, or rather he had lost the faculty by which they are called up at the control of the will. He was by no means inattentive, however, to what was going on; and he recognised friends and acquaintances perhaps as quickly as on any former occasion; but their names, or even his own, or his wife's name, or the names of any of his domestics, appeared to have no place in his recollection.

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* In No. 35 of Phren. Journal, Dr. Gregory's account of effects of muriate of morphia on Language, and in No. 36, Mr. W. A. F. Browne's account of diseased affections of the same organ.

"On the morning of the 4th September," says Mr. Hood, "much against the wishes of his family, he put on his clothes, and went out to the workshop; and, when I made my visit, he gave me to understand, by a variety of signs, that he was perfectly well in every respect, with the exception of some slight uneasiness referrible to the eyes and eyebrows. I prevailed on him, with some difficulty, to submit to the reapplication of leeches, and to allow a blister to be placed over the left temple. He was now so well in bodily health that he would not be confined to the house; and his judgment, in so far as I could form an estimate of it, was unimpaired; but his memory for words was so much a blank, that the monosyllables of affirmation and negation seemed to be the only two words in the language, the use and signification of which he never entirely forgot. He comprehended distinctly every word which was spoken or addressed to him; and, though he had ideas adequate to form a full reply, the words by which these ideas are expressed seemed to have been entirely obliterated from his mind. By way of experiment, I would sometimes mention to him the name of a person or thing. His own name, for example, or the name of some one of his domestics,—when he would have repeated it after me distinctly, once or twice; but, generally, before he could do so a *third* time, the word was gone from him as completely as if he had never heard it pronounced. When any person read to him from a book, he had no difficulty in perceiving the meaning of the passage, but he could not himself then read; and the reason seemed to be, that he had forgotten the elements of written language, viz. the names of the letters of the alphabet. In the course of a short time, he became very expert in the use of signs; and his convalescence was marked by his imperceptibly acquiring some general terms, which were with him at first of very extensive and *varied* application. In the progress of his recovery, time and space came both under the general appellation of *time*. All future events and objects before him were, as he expressed it, '*next time;*' but past events and objects behind him were designated '*last time.*' One day being asked his age, he made me to understand that he could not tell; but, pointing to his wife, uttered the words '*many times*' repeatedly, as much as to say that he had often told her his age. When she said he was sixty, he answered in the affirmative, and inquired what '*time*' it was; but as I did not comprehend his meaning distinctly, I mentioned to him the hour of the day, when he soon convinced me that I had not given him the proper answer. I then named the day of the week, which was also unsatisfactory; but, upon mentioning the month, and day of the month, he immediately signified, that this was what he wanted to know, in order to answer my question respecting his age. Having succeeded in getting the day of the month, he then pointed out the '*time*' or day of the month on which he was born, and thereby gave me to understand that he was sixty years of age, and five days or '*times*,' as he expressed it."

In the month of December, 1822, his convalescence was so complete, that he could support conversation without much difficulty. The headaches, with which he had been so long affected, recurred occasionally; but in other respects he enjoyed, generally, tolerably good health. On 10th January, 1825, he suddenly became paralytic on the left side. On 17th August he had an attack of apoplexy, and on 21st he expired. In the Phrenological Journal, vol. iii. p. 28, Mr. Hood has reported the dissection of his brain. In the left hemisphere, lesion of the parts was found, which terminated "at half an inch from the surface of the brain, where it rests over the middle of the super-orbitar plate." Two small depressions or cysts were found in the substance of the brain, "and the cavity, considered as a whole, expanded from the anterior part of the brain till it opened into the ventricle in the form of a trumpet." The right hemisphere did not present any remarkable appearance.

Dr. Spurzheim mentions having seen, at Inverness, a case closely resembling the foregoing; and also one of the same nature at Paris. Dr. Gall also cites the case of a notary recorded by Pinel, who, after an attack of apoplexy, had forgot his own name, and that of his wife, children and friends, although his tongue preserved all its mobility. He could no longer read or write, but nevertheless remembered objects which had formerly made an impression on his senses, and which related to his profession. He frequently pointed out with his finger the files which contained documents that could not be found, and indicated, by other signs, that he preserved the former train of his ideas entire.* Dr. Gall mentions also the case of a soldier sent to him by Baron Larrey, whom he found to be very nearly in the same condition as the notary mentioned by Pinel. "It was not his tongue," says he, "which was the source of his embarrassment," for he was able to move it with great agility, and to pronounce even a great number of isolated words. It was not his memory either which was in fault, for he showed evident dissatisfaction with himself upon many subjects which he wished to mention. The only faculty in him which was impaired, was that of speech. This soldier, like the patient of M. Pinel, is no longer capable of reading or writing.†

Some individuals in whom Language is large, state as an objection that they have a bad memory of names; but they will be found in general to have a deficient memory of the objects which the names indicate; for example, if they cannot recollect names of persons, they will have deficient Form and Individuality; and if they cannot recollect names of Tunes, they will be deficient in Tune. The defect lies in the faculty which apprehends and recollects the primitive idea, for which Language recollects the name; and it is quite conceivable, that although Language may be powerful, yet it may not furnish names, as mere words, when the thing signified is not present in the mind.

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* Pinel sur l'Aliénation mentale, 2de édition, p. 105.

† Physiologie du Cerveau, vol. iv. p. 84.

The lower animals appear to have this organ in some degree; for they learn the meaning of arbitrary signs in so far as they possess the feelings and conceptions which they express.

This faculty is by far too extensively cultivated in ordinary education. The notion seems generally to prevail, that knowledge of words necessarily implies comprehension of the ideas which they are intended to signify; but this is a great mistake. A good education must embrace the cultivation of *all* the faculties, by exercising each directly on its own objects, and regulating its manifestations. The mere storing the mind with words never can accomplish these ends.

The organ is large in the companion of Gall, Sir J. E. Smith, Humboldt, Voltaire; and small in the mask of Fraser. Established.

GENERAL OBSERVATIONS ON INDIVIDUALITY, AND THE OTHER KNOWING OR PERCEPTIVE FACULTIES.

No objection to Phrenology is more frequently repeated than that such and such persons have retreating foreheads, and yet are very clever. A short explanation will serve to remove this difficulty. In the first place, a forehead may *appear* retreating, not because the reflecting organs are *greatly* deficient, but because the knowing organs are very prominently developed, so that if the latter were diminished in size, the former would *appear* relatively larger: But every one must perceive, that, in such an event, the mental powers of the perceptive class would be proportionally diminished, and the talents of the individual lessened, while the unskilful observer might imagine him to possess a better developement of forehead. In the mask of Henri Quatre, for example, the forehead appears to slope; whereas, if the knowing organs

apprehends it. It is the result of physical elements
commotion, and all the faculties last enumerated, tog
Eventuality itself, which observes motion, combine in
individual conceptions, which Eventuality unites into
designated by a "storm." Revolution is another ex
revolution does not exist in nature as a substantive thing,
from the combined action of numerous moral and physic
the result of which Eventuality conceives as one event.

It is interesting to observe the Phrenological System
first sight appears rude and unphilosophical, harmonizing t
and beautifully with nature. Had it been constructed b
tion or reflection alone, it is more than probable that t
tion of the minor knowing faculties rendering Individ
Eventuality superfluous, would have appeared so strong
mountable, as to have insured the exclusion of one o
unnecessary; and yet, until both were discovered and
the formation of such terms as those we have consid
altogether inexplicable.

GENUS IV.—REFLECTING FACULTIES.

THE intellectual faculties which we have considere
knowledge of objects and their qualities, and of event
to which we now proceed, produce ideas of relation, o
They minister to the direction and gratification of all
powers; and constitute what we call Reason or Reflecti

34.—COMPARISON.

DR. GALL often conversed on philosophical subjects w
vant, possessing much vivacity of mind. Whenever the
put to difficulty in proving rigorously his positions, he h
recourse to a comparison. By this means he in a manne
his ideas, and his opponents were defeated and carried a

him; effects which he could never produce by simple argument. As soon as Dr. Gall perceived that, in him, this was a characteristic trait of mind, he examined his head, and found an eminence of the form of a reversed pyramid in the upper and middle portion of the frontal bone. He confirmed the observation by many subsequent instances. He names it "perspicacity, sagacity, *esprit de comparaison.*"

The faculty gives the power of perceiving resemblances and analogies. Tune may compare different notes; Color contrast different shades; but Comparison may compare a Tint and a Note, a Form, and a Color, which the other faculties by themselves could not accomplish.

Comparison thus takes the widest range of nature within its sphere: "It compares," says Mr. Scott, "things of the most opposite kinds, and draws analogies, and perceives resemblances between them, often the most unexpected. It compares a light seen afar in a dark night, to a good deed shining in a naughty world; or it compares the kingdom of Heaven to a grain of mustard-seed. It discerns resemblances between things the most distant and the most opposite. It finds analogies between the qualities of matter and mind;" and from these comparisons and analogies, a great part of our language, expressive of the qualities of mind, is drawn; "a great part of it being almost metaphorical, and applied originally in its literal sense to designate qualities of matter." For this reason, the language of every nation proves whether this organ is much or little developed in the greatest number of its individuals. If they have this faculty in a high degree, their language is replete with figure. Dr. Murray Patterson mentions that the Hindostanee language abounds in figures, and that Comparison is larger than Causality in the heads of the Hindoos in general. It is the origin of proverbs, which in general convey instruction under figurative expressions.

This faculty attaches us to comparison, without determining its kinds; for every one must choose his analogies from his knowledge, or from the sphere of activity of his other faculties. He who has the faculty of Locality in a high degree, derives thence his examples; while another, in whom Form predominates, will illustrate from it. Dr. Chalmers draws his illustrations from mechanics and astronomy; and the organs which take cognizance of these are large in his mask.

It was formerly supposed that this faculty takes cognizance only of resemblances, and that another discriminates differences; but, in treating of the faculty of Wit, p. 324, I have stated that perception of resemblance is the result of a lower, and discrimination of differences of a higher, degree of power in every intellectual faculty.

This faculty gives a tendency which is frequently called Reasoning, but which is very different from the correct and severe inductions of a sound logic; namely, it endeavors to prove that one thing is of such and such a nature, because it resembles another which is so and so; in short, it reasons by analogy, and is prone to convert an illustration into an argument. The late Mr. Logan, the minister of Leith, is an example of this kind of intellect. He is always establishing a proposition, and, to those who do not analyze profoundly, appears to be an argumentative preacher; but his argument is not induction, it is a mere statement of analogies, closed by an inference that the case in point must be as he views it, otherwise it would be an exception to the ordinary arrangements of nature. The tendency of this faculty, when feeble, is to perceive only resemblances, and not the differences of things; and, as a difference in one point out of a hundred frequently destroys the whole force of the analogy, no reasoning is so often false and superficial as that of persons in whom Comparison is the leading intellectual organ, but in whom nevertheless it is not large. The late Mr. Playfair may be cited as an example in opposition to these. In him Causality was as large as Comparison, and his comparisons are merely illustrations. His argument, in general, stands in the relation of necessary consequence, and his conclusion is in the form of a direct deduction from his premises. This faculty is more rarely deficient than any of the other intellectual powers, and the Scripture is addressed to it in an eminent degree, being replete with analogies and comparisons.

This faculty, from giving readiness in perceiving analogies and resemblances, confers great instantaneous acuteness. The organ is largely developed in a neighboring nation; and it is correctly observed by a late writer, that "ingenuity in discovering unexpected glimpses and superficial coincidences in the ordinary relations of life, the French possess in an eminent degree."* In schools, the best scholars generally have much Language and Comparison. The faculty is of essential service to orators and popular preachers. It and Eventuality are the largest organs in the forehead of the late Right Honorable William Pitt. It is large also in the busts of Curran, Chalmers, Burke, and Jeffrey. In Mr. T. Moore it is very large, and in the Westminster Review, No. 8, it was remarked that there are two thousand five hundred similies in his life of Sheridan, besides metaphors and allegorical expressions. Dr. Gall correctly observes, that close reasoning and rigid induction, is always disagreeable to a popular audience, because their faculties are not cultivated or exercised to follow abstract conceptions. The great charm of popular speakers, therefore, consists in perspicuity of statement, and copiousness of illustration.

From giving power of illustration and command of figures, this faculty is of great importance to the poet, and it aids Wit also, by suggesting analogies. By common observers, indeed, the metaphors, amplifications, allegories, and analogies, which Comparison supplies, are frequently mistaken for the products of Ideality, although they are very different.

Ideality being a sentiment, when greatly excited, infuses passion and enthusiasm into the mind, and prompts it to soar after the splendid, the beautiful, and the sublime, as objects congenial to its constitution.† Comparison, on the other hand, being an intellectual power, produces no passion, no intense feeling or enthusiasm; it coolly and calmly plays off its sparkling fire-works, and takes its direction from the other powers with which it is combined. If united with great Individuality and Causality in any individual, the comparisons employed will be copious, ingenious, and appropriate; but if Ideality is not large, they will not be impassioned, elevated and glowing. Add to Comparison, again, a large Ideality, as in Dr. Chalmers, and its similies will now twinkle in delicate loveliness like a star, now blaze in meridian splendor like the sun, while intense feeling and lofty enthusiasm will give strength and majesty to all its conceptions.

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* Edinburgh Review, Nov. 1820, p. 389.

† It is under the influence of Ideality, that

"The poet's eye, in a fine frenzy rolling,
Doth glance from Heaven to Earth, from Earth to Heaven;
And as imagination bodies forth,
The forms of things unknown, the poet's pen
Turns them to shapes, and gives to airy nothing
A local habitation and a name"

It is large in Raphael, Roscoe, Edwards, Henri Quatre, Mr Hume, Hindoos; deficient in Charibs.

Hitherto the function of this organ has been considered as limited to a perception of general resemblance and difference between objects compared; but a new view has been suggested by my ingenious friend Mr. Hewett Watson. He conceives that its simple function probably is "a *perception of conditions*;" and he proposes the term "Conditionality" as the name. "It is admitted," says he, "that the faculty of Form compares forms, Tune compares notes, and Coloring compares colors. In these faculties, Comparison is a *mode* of *activity* only; and it is contrary to all analogy to assign comparison to another organ as its primitive function. The organ XXXIV, therefore, will probably originate some specific perceptions distinct in kind from those of any other organ; and its comparisons will be made between *its own* perceptions only; as is the case with every other intellectual faculty." A few illustrations will render these ideas more clear.

When we utter the word "Man," we address Individuality alone; we speak of a being which exists, without specifying his form, size, color, or weight; without mentioning his actions; and without intimating his condition. When we say the man walks, we add a new idea, that of walking: In this proposition we call in the aid of Eventuality, which perceives action or events. If we say the *tall man* walks, we address Size, Individuality and Eventuality; or if we say the *black* man rides, then Color, Individuality and Eventuality combine in uttering and in understanding the proposition: But, suppose that we are told that the ***miserable man*** runs along the road; here we have first, the man,—second, his condition, ***miserable***,—and ***third***, his action, running: now, what organ takes cognizance of his ***condition***." It is obvious that it must be an organ distinct from the other two, because the mind can conceive the man, without his action; it can conceive the man and his action without thinking of his condition; and his condition without adverting to his action; his condition is therefore a third and separate consideration, introduced as an article of additional information. Again, suppose that we are told that Mr. A. and Miss B. were married last week at the altar of their parish church; the information would be communicated by and addressed to the organs of Individuality, which take cognizance of Mr. A. and Miss B. as individuals, and the altar and church as things which exist; Locality would inform us of the place of the marriage, and "Time" of the date of it; but in all this nothing is said of the ***condition*** of the parties. Now, suppose that we should meet them coming from the church, and should wish them much "happiness" in their "***new condition***," it is evident that some conceptions different from the former are added. We now contemplate them in the "married condition," and we express our wish that they may exist happy in that state.

Mr. Watson's idea is, that the primitive function of Comparison is to take cognizance of the condition in which beings and inanimate objects exist; and that it compares the conditions, just as Color compares colors, and Tune compares sounds. Of all the means of creating interest or affording illustration, the specification of the condition of objects or beings is the most effectual. Thus, the man exists, is announced by Individuality, and produces little interest; the ***man dies***, is announced by Individuality and Eventuality, and is more affecting; but the "***good*** and ***just young*** man dies," stirs up a far deeper emotion; and it is the addition of his qualities and condition "good, just, and young," that makes the difference. Poets and orators, therefore, in whom this organ is large, will possess vivid perceptions of the condition and qualities of objects and beings; and if every faculty compares its own objects, *it* will compare conditions. If this be correct, we ought to find authors in whom Individuality predominates, illustrating their subject chiefly by comparing simple individual objects; one in whom Eventuality predominates illustrating by comparing actions; and one in whom the organ now under discussion predominates, illustrating by comparing conditions or states; and such accordingly is actually the case. The following illustrations are furnished chiefly by Eventuality.

> "When Ajax strives some rock's huge weight to throw,
> The line too, labors, and the words move slow;
> Not so when swift Camilla scours the plain,
> Flies o'er the unbending corn, and skims along the main."
> POPE.

Mr. Watson observes, that, in Sheridan, Individuality and Eventuality are large, and Comparison only full; and the example already given on page 401, from his works, corresponds with this developement.

In Moore, Individuality is large, Eventuality deficient, and Comparison very large; and his descriptions are confined so much to conditions, that any artist who should attempt to transfer one of his beauties to canvass, would require to invent every item of form, proportion, color, and indeed, every thing except condition. "The harp that once through Tara's halls" is a good example of this; the whole piece being but a description and comparison of conditions. In another short poem, "Though Fate, my girl, may bid us part," the same occurs; and the following is another example,—

> "When I remember all
> The friends so linked together,
> I 've seen around me fall
> Like leaves in wintry weather;
> I feel like one who treads alone
> Some banquet-hall deserted;
> Whose lights are fled, whose garlands dead;
> And all but he departed."

It is quite obvious, that condition is the prominent feature, indeed, almost the whole physiognomy of these lines.

In the busts of Pope, Individuality is moderately developed, Eventuality very large, and Comparison considerable. "The styles of Pope, and Moore," says Mr. Watson, "seem to be quite contrasted in this respect, that Pope narrates all the circumstances of his stories in succession, as they may be supposed to occur. Moore, on the other hand, gives us a series of highly finished pictures, describing clearly and beautifully the *state* of the earth, atmosphere, sky, clouds, and *dramatis personæ*, for the time being, but by no means with that regular sequence of occurrences which is to be found in Pope. His stories are the whole routine of real life; those of Moore stage representations, where a good deal is done behind the scenes, and only the most effective parts brought into view. Pope writes historical documents with the minute accuracy and detail of a French pedigree; Moore's pen is like the pencil of an artist, and creates a gallery of paintings, where we see the same persons in different situations at different periods, but with no more information of what becomes of them in the interim, than we can obtain concerning the noonday dwelling of *Oberon*, or the *Ghost* of *Royal Hamlet*. Their styles being thus different, we should expect their similies to exhibit a corresponding diversity, if there be really no special organ of Comparison: those of Pope should be less strongly characterized by resemblance of condition, and show a greater or more proportional variety in the points of similitude; the comparisons should be more diversified, and the resemblances more comprehensive."—*Phren. Journ.* vi. 389.

I communicated Mr. Watson's ideas to Dr. Spurzheim, before they were published in the Phrenological Journal; and he favored me with the following remarks, in a letter, dated Dublin, 16th May, 1830:—"My description of Comparison involves the essence of Mr. Watson's idea:—Among your examples, *young* horse belongs to it, but not *lively* horse. The horse being *lively*, is known by Eventuality, in the same way as motion in general. The *generality* of attributes and all abstract ideas and general notions are conceived by Comparison. *Condition* indicates not only state, but also cause; and if *Comparison* shall be replaced by another term, it cannot be *Conditionality*. Abstraction or generalization should be preferable. *Vergleichender Scharfsinn* is very significant: It compares, discriminates, separates, abstracts, adapts, and generalizes. The philosophers styled *Nominalists* had it in an eminent degree, whilst Individuality was predominant in the *Realists*. Comparison compares conditions or states, and conditions or causes. Its essential result is generalization and discrimination."

These differences of opinion apply only to the metaphysical analysis of the faculty: the organ and the manifestations which accompany it are held to be perfectly ascertained. Examples of the organ are given under Eventuality, p. 399.

35.—CAUSALITY.

It has long been a matter of general observation, that men possessing a profound and comprehensive intellect, such as Socrates, Bacon, and Galileo, have the upper part of the forehead greatly developed. At Vienna, Dr. Gall remarked, that, in the most zealous disciples of Kant, men distinguished for profound, penetrating, metaphysical talent, the parts of the brain lying immediately outwards, and to the sides of the organ of Comparison, were distinctly enlarged. He and Dr. Spurzheim subsequently saw a mask of Kant himself, moulded after death, and perceived an extraordinary projection of these parts. At a later period, they became personally acquainted with Fichte, and found a developement of that region still larger than in Kant. Innumerable additional observations satisfied them concerning the functions of this organ; Dr. Gall named it "*Esprit métaphysique, Profondeur d'esprit,*" and Dr. Spurzheim "Causality."

Dr. Thomas Brown says, "a cause, in the fullest definition which it philosophically admits, may be said to be, *that which immediately precedes any change, and which, existing at any time in similar circumstances, has been always, and will be ways, immediately followed by a similar change.* Priority in the sequence observed, and invariableness of antecedence in the past and future sequences supposed, are the elements, and the only elements, combined in the notion of a cause." This is a definition by means of Individuality and Eventuality, of the functions of Causality, but it is not complete. When we treat of an original and simple power of mind, all we can do is to state the circumstances which excite it, and to give the mental affection a name. We cannot, for example, by means of a definition, enable a person who never felt sweetness, to understand what it is. We can only say that sugar, and other saccharine substances, when applied to the organ of taste, excite in them a particular sensation, which we call *sweetness*. It is the same with Causality. All we can accomplish is to point out the circumstances in which the mental affection connected with that organ arises, and to give a name to the affection itself. Now, the metaphysical definition describes with sufficient accuracy the circumstances which excite the affection; but it does not convey any notion of the original mental state itself which is thereby produced: In addition to the invariable sequence which Eventuality perceives, an impression of power or efficiency in the antecedent to produce the consequent, appears to me to be excited in the mind, by contemplating instances of causation in nature; and this impression seems to be the primitive mental affection connected with the organ of Causality.

It is said, that it is only by experience, and by observing the invariableness of the sequence that we discover the connexion of cause and effect, and this is correct; but in this respect Causality does not differ from the other faculties. Caloric as a substance existing in nature is one thing, and the feeling of heat produced by it in the human nerves is another. Before the mind can experience the feeling, heat must be applied to the nerves; but even after it has been applied and the sensation felt, the mind knows nothing about what caloric is in itself, or *how* it comes to have the quality of exciting the sensation. All that the mind discovers is, that caloric, be it what it may, exists; and that it is capable of exciting in the nerves, the peculiar feeling which is named heat or warmth. The same holds in regard to Causality. Before the mind can know the presence of a cause, it must have manifested itself to the faculty by producing an effect. The presentment of caloric to the nerves produces the feeling of heat; and the presentment of an instance of causation excites in Causality the impression that a cause exists. Suppose a bent bow, with an arrow drawn to the head, but retained in this position, to be presented, it is said that Causality, prior to experience, could never discover that, on the restraining power being withdrawn, the bow would expand and propel the arrow; and this is quite correct; because a bow in this condition is an object which excites only the faculties of Form, Size, Coloring, &c. It is an object of still life, of simple existence; when it expands, and the arrow starts from the string, it becomes an object of Eventuality, which perceives the motion; but in addition to the perception of the bow as a substance, and of the motion, an instinctive impression is generated, that the expansion was the cause of the arrow's motion; and this impression is produced by Causality. The most illiterate savage would repeat the operation in the confidence that the effect would follow. A monkey, however, although it might find the arrow very useful to knock down fruit which it could not reach with its feet, would not repeat the operation although presented with the bow and arrow. It possesses hands and arms quite adapted to draw the string, but having no organ of Causality, it would not receive the impression of causation; it might see the phenomena succeed each other, without any idea of efficiency being excited.*

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* Beavers and others of the lower animals appear, at first sight, to have some degree of Causality. Beavers adapt the structure of their dam with surprising sagacity to the pressure of the water; and in preparing it, they not only cut trees in such a way, as to make certain of their falling into the water, and not on dry land, but they select trees so situated, that when they do fall, the stream shall carry them to the spot where they wish them to be placed. There appears a knowledge of cause and effect in these operations; and yet the beaver cannot apply this knowledge out of its own department. I am inclined, therefore, to give a different explanation. It is probable that each knowing faculty is adapted to the natural laws of its objects; the organ of Tune is fitted not only to feel in accordance with the laws of harmony, but instinctively to seek to obey them in producing music; it desires melody, and melody cannot be produced except in conformity with those laws: it therefore tries, and tries again, until at last it suc-

Individuality, Eventuality, and Comparison take cognizance of things obvious to the senses. Causality looks a little farther than these, perceives the dependences of phenomena, and furnishes the idea of causation, as implying something more than mere juxtaposition or sequence,—as forming an invisible bond of connexion between cause and effect. It impresses us with an irresistible conviction, that every phenomenon or change in nature is caused by something, and hence, by successive steps, leads us to the First Cause of all. In looking at the actions of men, it leads us to consider the motives, or moving causes, from which they proceed. Individuality judges of direct evidence, or facts; Causality of circumstantial evidence, or that by inference. In a trial, a juryman, with large Individuality and small Causality, will have great difficulty in convicting on circumstantial evidence. He in whom Causality is large will often feel that kind of proof to be irresistible. It induces us, on all occasions, to ask, Why is this so? It gives deep penetration, and the perception of logical consequence in argument. It is large in persons who possess a natural genius for metaphysics, political economy, or similar sciences. When greatly larger than Individuality, Eventuality, and Comparison, it tends to vague generalities of speculation, altogether inapplicable to the

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ceeds in producing sounds agreeable to itself, and just because its constitution and the laws of harmony are in accordance, it at last fulfils these laws by instinctive impulse, without knowing them. It is probable that the organs of Constructiveness and Weight in the beaver, are in like manner adapted to the laws of gravitaation, and that it instinctively obeys them without knowing any thing of the laws themselves. This would account for its powers being perfect, yet limited in their sphere. Constructiveness and weight in man also may be adapted to these laws, but, by the addition of Causality, he may become acquainted with natural powers as general agents, and become capable of tracing their general application. Thus, a beaver, an elephant, and a savage, may, by the mere instinct of weight and momentum, roll or pull up an inclined plain a heavy body, which they cannot lift, without knowing any thing of the causes why they succeed in raising it in this way; but a philosopher, with great Causality, may recognise the existence of the cause, ascertain the laws of its operation, and then adapt it to a variety of purposes. This would account for philosophers often excelling in particular branches of science, who are very deficient in Causality; Newton, for example, in mathematics and weight; while no man is ever observed to be eminent for his talent of applying causation generally, who has a deficiency of that kind.

affairs of life; and hence those in whom it predominates are not calculated to shine in general society. Their sphere of thought is too abstracted to be reached by ordinary minds; they feel this, and remain silent; and hence are reputed dull, heavy, and even stupid. A great defect of the organ renders the intellect superficial; and unfits the individual for forming comprehensive and consecutive views, either in abstract science or business. Coincidence only, and not Causation, is then perceived in events: Such persons are often admirably fitted for common situations, or for executing plans devised by profounder intellects; but, if they are intrusted with the duties of legislators, or become directors in any public affair, embracing Causation, it is difficult to make them comprehend the natural dependences of things, and to act according to them. Blind to remote consequences, they stigmatize as visionary all intellectual perceptions which their own minds cannot reach; they reject principle as vain theory; are captivated by expedients, and represent these as the *beau ideal* of practical wisdom.

Dr. Spurzheim observes, "that the faculty of Individuality makes us acquainted with objects and facts; the faculty of Comparison points out their identity, analogy or difference; and Causality desires to know the causes of all events: consequently, those three faculties together forming systems, drawing conclusions, indications, or corollaries, and pointing out principles and laws, constitute the true philosophical understanding."

It is interesting to trace the effects of this faculty, strong or weak, in the mental character, as it exhibits itself in the occurrences of life. I accompanied two gentlemen to see a great public work, in one of whom Individuality was large and Causality small, and in the other of whom the proportions of these organs were exactly reversed. The former, in surveying the different objects and operations, put question after question to the workmen, in rapid and long continued succession; and nearly all the information which he carried away with him was acquired in answer to specific interrogatories. His mind scarcely supplied a step by its own reflection; and did not appear to survey the operations as a systematic whole. The latter individual looked a long time in silence before he put a question at all; and when he did ask one, it was, What is the use of that? The answer enabled his own mind to supply a multitude of additional ideas; he proceeded in his examination, and it was only on arriving at another incomprehensible part of the apparatus, that he again inquired. At last he got through; then turned back, and, with the most apparent satisfaction, contemplated in silence the operations from beginning to end as an entire system. I heard him afterwards describe what he had seen, and discovered that he had carried off a distinct comprehension of the principles and objects of the work. It is probable that a superficial observer would have regarded the first as the acute, intelligent, and observing man of genius; the person who noticed every thing, and asked about every thing; and the latter as a dull uninteresting person, who put only two or three questions in all, looked heavily, and said nothing.

A gentleman in a boat was unexpectedly desired to steer. He took hold of the helm, hesitated a moment what to do, and then steered with just effect. Being asked why he hesitated, he replied, "I was unacquainted with steering, and required to think how the helm acts." He was requested to explain how thinking led him to the point, and replied, That he knew, from study, the *theory* of the helm's action; that he just run over in his mind the water's action upon it, and its action on the boat, and then he saw the whole plainly before him. He had a full Causality, and not much Individuality. A person with great Individuality and Eventuality, and little Causality, placed in a similar situation, would have *tried the experiment* of the helm's action, to come to a knowledge of the mode of steering: he would have turned it to the right hand, and to the left, and *observed* the effect, then acted accordingly; and he might have steered during his whole life thereafter, without knowing any thing more about the matter.

A question arose in an evening party concerning the cause of the harvest moon. In one gentleman present, Individuality and Eventuality predominated; in another, Causality was the larger intellectual organ. In an instant the former said that the harvest light was owing to the moon's then advancing north to the Tropic of Cancer at the time of her being full. The latter paused for a time, and added, "Yes, sir, you are quite right." Observing the difference in their heads, and perceiving by their manner that they had arrived at the result by different mental processes, I asked them to explain how they knew this to be the cause. The first said, "Oh! I recollect Professor Playfair stated it in his lectures to be so." The other replied, "I had forgot the precise fact, but I recollected the principle on which the Professor mentioned it to depend, and by a moment's reflection I followed it out, and arrived at the conclusion which this gentleman has just announced." "I am not sure," said the former, "that I could now master the principle, but of the result I am quite certain; because I distinctly recollect of its being stated by Mr. Playfair." This is a striking example of the mode of action of these different faculties. Individuality knows only facts; Eventuality events: and Causality takes cognizance of principles alone.

Causality is the fountain of resources. Place an individual, in whom it is small, in new circumstances, and he will be helpless and bewildered; place another, in whom it is large, in a similar situation, and he will show his superiority by the extent of his inventions. A mechanic, with little Causality, will be at a stand if his ordinary tools are wanting, or if employed out of his ordinary line; another, having this faculty powerful, will find a thousand substitutes. If a person deficient in Causality be placed in charge of any establishment, comprehending a variety of duties which arise the one out of the other, and all of which cannot be anticipated and specified *à priori*, he will be prone to neglect part of what he ought to attend to. He will probably plead forgetfulness as his excuse, but want of comprehensiveness, and consecutiveness of thinking, will be the real cause of his imperfections.

If a person, possessing little Causality, write a book, he may shine in narrative, provided Individuality or Eventuality and Language be amply developed; but when he endeavors to reason, he will become feeble and confused. One endowed with much Causality, in reading a work, written by an author in whom this organ is deficient, will feel it characterized by lightness and want of depth; it will furnish him with no stimulus to thinking. When, on the other hand, a person possessing only a small Causality, peruses a book composed by an author in whom this organ predominates, such as Locke's Essays, or Brown's Lectures, he will regard it as heavy, abstract, and dry, and be oppressed by it as if a night-mare were weighing on his mind.

Among metaphysicians, Hume, Dr. Adam Smith, and Dr. Thomas Brown display great Causality, Dr. Reid not so much, and Mr. Stewart still less. In the portraits of the first three the organ is represented as decidedly large. It is large, also, in Bacon, Locke, Franklin, and Playfair; and likewise in the masks of Haydon, Burke, Brunel, Wordsworth, and Wilkie. It is moderate in Pitt, Sir J. E. Smith; and very deficient in the Charibs and New Hollanders. A late writer observes, that, "of whatever has been said and written upon the moral and political sciences in France, the general characteristic is a deficiency in extensive views of human nature, in profound investigation of the heart, portrayed in all its strongest feelings and multitudinous bearings."* Without subscribing to the accuracy of this observation in its full extent, the fact may be mentioned as certain, that, in the French head in general the organ of Causality is by no means largely developed.

"The ancient artists," says Dr. Spurzheim, "have given to Jupiter a forehead more prominent than to any other antique head; and hence it would seem they had observed, that the developement of the forehead has a relation to great understanding." The bust of Socrates (of which the Phrenological Society possesses a copy,) shows a very large developement of the reflecting organs. It is either a correct representation of his real appearance, and then it presents an interesting coincidence betwixt his character and developement; or it is supposititious, and, in that case, shows the impression of the ancient artist, that such a mind as that of Socrates required such a tenement for its abode.

As already mentioned, when the organ now under consideration is very deficient, the individual has great difficulty in perceiving Causation; and when two events are presented to him following each other or concomitant, he sees only *coincidence*. Illustrations of this observation frequently occur in discussions relative to Phrenology. When Causality is well developed in an observer, and several decided instances of concomitance betwixt particular forms of head and particular powers of mind are presented to him, the feeling of connexion between them is irresistible; he is struck with it, and declares that there is something here which ought to be followed out. When the same facts are exhibited to a person in whom Causality is deficient, he smiles surprisedly, and ejaculates "a curious coincidence;" but his mind receives no strong impression of connexion between the phenomena; it feels no desire to follow out the ideas to their consequences, and has no wish to prosecute the investigation. It was from this class of minds, ever ready to catch superficial glimpses, that the public received the first accounts of Phrenology; and on them is chargeable the misrepresentations which so long impeded its course.

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* Edinburgh Review, Nov. 1820, p. 389.

This faculty is an ingredient in the judgment of the metaphysicians. It is also, to a certain extent, the fountain of abstract ideas, viz. those of the relation of cause and effect, and bears, in this respect, an analogy to their abstraction. It and Comparison correspond to the Relative Suggestion of Dr. Thomas Brown: "A tendency of the mind," says he, "by which, on perceiving or conceiving objects together, we are instantly impressed with certain feelings of their mutual relation."* By dispensing with Perception, Conception, &c. as separate faculties of the mind, and dividing the intellect into the two faculties of Simple Suggestion and Relative Suggestion, Dr. Brown has made an interesting approach to the results of phrenological discovery, and to a correct analysis of the actual constitution of the human intellect. It was impossible, by means of the old faculties of Conception, &c. to point out the distinctive characteristics of a mind which collected only facts in the order in which they were presented to it; and of another which struck out a multitude of new ideas from every object which it contemplated, and instinctively inquired from what causes all phenomena proceed, and to what results they tend. Dr. Brown's

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* Lectures, vol. iii. p. 14.

Simple Suggestion denotes the one, his Relative Suggestion the other; and in Phrenology, the Perceptive Faculties correspond to the former, and the Reflecting Powers to the latter.

We are now prepared to consider some points which have occasioned great and animated discussions among the philosophers of the old schools. It has been stated, that Individuality takes cognizance of objects that exist. A tree, a ship, a mountain are presented to the mind; and ideas or conceptions of them are formed; and the conception is followed by an instinctive belief in their existence. Bishop Berkeley objects to the belief in their existence as unphilosophical, because, says he, the conception or idea is a mere mental affection, and no principle or reason can be assigned, why an external object must be believed to exist, merely because we experience a mental affection. A smell, for example, is nothing more than a certain impression on the mind, communicated through the olfactory nerves. But no necessary connexion can be perceived between this affection and a belief in the existence of a rose: the mind may undergo the affection called a smell, just as it experiences the emotion called joy, and a material object may have as little to do in causing the one as the other. Hence Dr. Berkeley concluded, that we have philosophical evidence for the existence only of mind and mental affections, and none for the existence of the material world. Hume carried this farther, and argued, that as we are conscious only of ideas, and as the existence of ideas does not necessarily imply the existence of mind, we have philosophical evidence for the existence of ideas only, and none for that of either matter or mind. Dr. Reid answered Berkeley's objection by observing, that the belief in external objects, consequent on perceiving them, is instinctive, and hence requires no reason for its support.

Phrenology enables us to refer these different speculations to their sources, in the different faculties. Individuality (aided by the other perceptive faculties,) in virtue of its constitution, perceives the external world, and produces intuitive belief in its existence. But Berkeley employed the faculty of Causality to discover *why* it is that this perception is followed by belief; and because Causality could give no account of the matter, and could see no necessary connexion between the mental affection, called Perception, and the existence of external nature, he denied the latter. Dr. Reid's answer, translated into phrenological language, was simply this,—the cognizance of the existence of the outward world belongs to Individuality; Individuality has received its own constitution, and its own functions, and cannot legitimately be called on to explain, or account for these, to Causality. In virtue of its constitution, it perceives external objects, and belief in them follows; and if Causality cannot see *how* this happens, it is a proof that Causality's powers are limited, but not that Individuality is deceitful in its indications.

Another class of philosophers, by an error of a similar kind, have denied Causation. When Eventuality contemplates the relation of cause and effect, it discovers only one event following another, in immediate and invariable sequence: For example, if a cannon be fired, and the shot knock down a wall, Individuality observes only the existence of the powder, Eventuality perceives the fire applied to it, the explosion, and the fall of the building, as four events following in succession; but it forms no idea of power or energy in the gunpowder, when ignited, to produce the effect. When Causality, on the other hand, is joined with Eventuality in contemplating these phenomena, the impression of *power* or *efficiency* in the gunpowder to produce the explosion, arises spontaneously in the mind, and Causality produces an intuitive belief in the existence of this efficiency, just because it is its constitution to do so; and it is as absurd for Eventuality to deny the existence of some quality in the matter which gives rise to this feeling, because only Causality perceives it, as for Causality to deny the existence of the external world, because only Individuality perceives it.

A practical application of much importance follows from these doctrines.

Some men deny the existence of GOD; and others strenuously maintain, that that existence is demonstrable by a legitimate exercise of reason. The former, who deny GOD, say, that all we perceive in external nature is existence and the *succession* of phenomena; that we can form no idea of efficiency or power; and *that*, therefore, all we know philosophically is, that matter exists, and undergoes certain changes. This is the natural conclusion of men in whose heads Individuality and Eventuality are large, and Causality small; and, accordingly, Atheists are generally very deficient in the organ of Causality, and show its weakness in their general arguments on other topics. If, on the other hand, a mind in which Causality is very powerful, surveys the phenomena of nature, the conviction of a Cause of them arises irresistibly and intuitively from the mere exercise of the faculty. Benevolence and design, in the arrangements of the moral and physical world, are clearly perceived by it; and it therefore instinctively infers, that Benignity and Intelligence are attributes of the Cause which produced them. Hence the fact is phrenologically explained, why all master spirits are believers in GOD. Socrates, Plato, and the ancient philosophers, are represented as endowed with large organs of Causality; and they all admitted a Deity. Voltaire had too large a Causality to doubt of the existence of GOD; and Franklin continued to reverence the Supreme Being, although he had renounced Christianity.

To some who, perhaps for the sake of argument, have seemed inclined to deny the existence of a Deity, I have made the following appeal, without receiving any satisfactory answer:—A tree with roots exists; the earth exists; and there is exquisite adaptation of the one to the other. The adaptation is not a quality of the tree, nor of the earth; but a relation between them. It has no physical existence, but is clearly apprehended by mind. Mind, therefore, must have contrived it; and this mind we call the Deity. Causality perceives the adaptation.

Another argument resorted to by atheists finds an answer in the principles now explained. They object that we have no evidence of the *self-existence* of GOD; and affirm, that, for any thing we know to the contrary, the Maker of the world may himself own a superior, and have been created. Their objection is stated in this form: "You who believe in GOD infer his existence from seeing his works, on the principle that every effect must have a cause.

But," say they, "this Being himself *is an effect*. You have no evidence from reason of his *self-existence*, or *self-creation*; and as he does exist, you must assign *a cause of him*, on the same principle that you regard him as the cause of the material creation." The atheists carry this argument the length of a denial of God altogether, in respect that it is only the *first cause* that, according to them, can be entitled to be regarded as Deity; and the first cause, say they, is to us unknown.

This speculation may be answered as follows: Individuality *perceives existence directly*, and Causality *infers* qualities from their manifestations. To be able to judge thoroughly of any object, *both* of these faculties require to be employed on it. When a watch, for example, is presented, Individuality, and the other Knowing Faculties, perceive its wheels, spring, lever, &c. and Causality discerns their object or design. If the question is put, Whence did the watch proceed? From the nature of its materials, as perceived by the knowing faculties, Causality infers that it could not make itself; and from discovering intelligence and design in the adaptation of its parts, this faculty concludes, that its Cause must have possessed these qualities, and therefore assigns its production to an intelligent artificer. Suppose the statement to be next made,—"This artificer himself is an existence, and every existence must have a cause, Who, then, made the watchmaker?" In this case, if no farther information were presented to Causality than what it could obtain by contemplating the structure of the watch, the answer would necessarily be, that it could not tell. But let the artificer, or man, be submitted to the joint observation of Individuality and Causality, and let the question be then put, Who made him?—Individuality and the knowing powers, by examining the structure of his body, would present Causality with data from which it could unerringly infer, that, although it perceived in him intelligence and power sufficient to make the watch, yet, from the nature of his constitution, he could not possibly make himself. Proceeding in the investigation, Causality, still aided by the knowing faculties, would perceive farther the most striking indications of power, benevolence, and design in the human frame; and from contemplating these, it would arrive at a complete conviction, that the watchmaker is the workmanship of a great, powerful, and intelligent Being. If, however, the question were repeated, "Whence did this Being proceed?" Causality could not answer. It would then be in a situation similar to that in which it would be placed, if required to tell, from seeing the watch alone, who made the watchmaker. Individuality cannot observe the substance of the Maker of the human body; and none of the perceptive faculties can reach him. His existence is the object of Causality alone; and all that it can accomplish is to infer his existence, and his qualities or attributes, from perceiving their manifestations. I have stated the argument in the plainest language, but with perfect reverence; and we are arrived at the conclusion, that this faculty is silent as to the cause of the Creator of man, and cannot tell whether he is self-existent, or called into being by some higher power; but thus far it can go, and it draws its conclusions unhesitatingly, that he *must exist*, and *must possess the attributes* which it perceives manifested in his works; and these points being certain, it declares that he is GOD *to us;* that he is *our* Creator and Preserver; that all his qualities, so far as it can discover, merit our profoundest respect and admiration; and that, therefore, he is *to man* the highest and most legitimate object of veneration and worship.

It has been objected that although Causality may discover that GOD *has* existed, it sees no evidence that he *now* exists.—The answer to this remark appears to me to be that the manifestations of his power, wisdom, and goodness *continue* to be presented to Causality every moment, and that it has no data for concluding that the *cause* of them has ceased while they remain monuments of His Being.

The organ is established.

ADAPTATION OF THE EXTERNAL WORLD TO THE INTELLECTUAL FACULTIES OF MAN.

THE human mind and the external world, having emanated from the same Creator, ought, when understood, to be found wisely adapted to each other; and this accordingly appears in an eminent degree, to be the case. If the reader will direct his attention to any natural or artificial object, and consider, 1*st*, Its existence; 2*d*, Its form; 3*d*, Its size; 4*th*, Its weight; 5*th*, Its locality, or relations in space to other objects; 6*th*, The number of its parts; 7*th*, The order or physical arrangement of its parts; 8*th*, The changes which it undergoes; 9*th*, The periods of time which these require; 10*th*, The analogies and differences between the individual under consideration and other individuals; 11*th*, The effects which it produces; and, *lastly*, If he will designate this assemblage of ideas by a name, he will find that he has obtained a tolerably complete notion of the subject.

This order ought to be followed in teaching the sciences. Botany and Mineralogy are rendered intolerably tedious and uninteresting to many persons, who really possess sufficient natural talents for studying them, by names and classifications being erroneously represented as the chief *ends* to be attained. A better method would be, to make the pupil acquainted with his own mental powers, to furnish him with experimental knowledge, that these stand in definite relations to external objects, and feel a positive pleasure in contemplating them. His attention ought then to be directed to the existence of the object, as in itself interesting to Individuality; to its form, as interesting to the faculty of Form; to its color, as pleasing to the faculty of Color; and so on with its other qualities; while the name, order, genus, and species, ought to be taught in the last place, as merely designative of the qualities with which he has become conversant. Practice in this mode of tuition will establish its advantages. The mind which, unexercised, regarded all forms, not extravagantly ugly or beautiful, with indifference, will soon experience delight in discriminating minute degrees of elegance and expression; and the same effect will be produced by following a similar process of cultivation in regard to the other powers. The larger the organs the greater will be the delight, but even with a moderate developement much may be attained. Nor is it necessary to resort to schools and colleges for this exercise of the intellect. Objects of nature and art every where surround us, calculated to stimulate our faculties; and if the reader, as he walks in the country or in the town, will actively apply his various powers in the manner now pointed out, he will find innumerable sources of pleasure within his reach, although he should not know scientific names and classifications.

MODES OF ACTIVITY OF THE FACULTIES.

ALL the faculties, when active in a due degree, produce actions good, proper, or necessary. It is excess of activity that occasions abuses; and it is probable that Phrenology has been discovered only in consequence of some individuals, in whom particular organs were very largely developed, having yielded to the strongest propensities of their nature. The smallness of a particular organ is not the cause of a faculty producing abuses. Although the organ of Benevolence be small, it will not occasion cruelty; but, as it will be accompanied with indifference to the miseries of others, its deficiency may lead to the omission of duties. When, also, one organ is small, abuses may result from another being left without proper restraint. Thus, large organs of Acquisitiveness and Secretiveness, combined with small organs of Reflection and Conscientiousness, may, in certain circumstances, lead to theft. Powerful Combativeness and Destructiveness, with weak Benevolence, may produce cruel and ferocious actions.

Every faculty, when in action, from whatever cause, produces the kind of feeling, or forms the kind of ideas, already explained as resulting from its natural constitution.

The faculties of the PROPENSITIES and SENTIMENTS cannot be excited to activity directly by a mere act of the will. For example, we cannot conjure up the emotions of Fear, Compassion, Veneration, by merely willing to experience them. These faculties, however, may enter into action from an internal excitement of the organs; and then the desire or emotion which each produces will be felt whether we will to experience it or not. Thus, the cerebellum being active from internal causes, produces the corresponding feeling; and this cannot be avoided if the organ be excited. We have it in our power to permit or restrain the manifestation of it in action; but we have no option, if the organ be excited, to experience, or not to experience, the feeling itself. The case is the same with the organs of Fear, Hope, Veneration, and the others. There are times when we feel involuntary emotions of fear, or hope, or awe, arising in us, for which we cannot account; and such feelings depend on the internal activity of the organs of these sentiments.

> "We cannot Nature by our wishes rule,
> Nor at our will, her warm emotions cool."
>
> CRABBE.

In the *second* place, these faculties may be called into action independently of the will, by the presentment of the external objects fitted by nature to excite them. When an object in distress is presented, the faculty of Benevolence starts into activity, and produces the feelings which depend upon it. When an object threatening danger is perceived, Cautiousness gives an instantaneous emotion of fear. And when stupendous objects are contemplated, Ideality inspires with a feeling of sublimity. In all these cases, the power of acting, or of not acting, is dependent on the will; but the power of feeling, or of not feeling, is not so.

"It seems an unaccountable pleasure," says Hume,* which the spectators of a well-written tragedy receive from sorrow, terror, anxiety, and other passions, that are in themselves disagreeable and uneasy. The more they are touched and affected, the more are they delighted with the spectacle. The whole art of the poet is employed in rousing and supporting the compassion and indignation, the anxiety and resentment of his audience. They are pleased in proportion as they are afflicted, and never are so happy as when they employ tears, sobs and cries, to give vent to their sorrow, and relieve their hearts, swollen with the tenderest sympathy and compassion."

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* Essay 22.

Many volumes have been written to solve this problem. Those authors who deny the existence of benevolent and disinterested feelings in man, maintain, that we sympathize with *Cato*, *Othello*, or *King Lear*, because we conceive the possibility of ourselves being placed in similar situations, and that then all the feelings arise in us which we would experience, if we were ourselves suffering under similar calamities. Mr. Stewart, who, on the other hand, admits the existence of generous emotions in the human mind, states it as his theory, that we, for an instant, believe the distress to be real; and under this belief feel the compassion which would naturally start up in our bosoms, if the sufferings represented were actually endured. A subsequent act of judgment, he says, dispels, in an almost imperceptible portion of time, the illusion, and restrains the mind from *acting* under the emotion; which, if the belief of reality continued, it would certainly do, by running to the relief of the oppressed hero or heroine; but still he considers that a momentary belief is necessary to call up the emotions which we experience.

The phrenological doctrine just delivered appears to me to furnish the true explanation. Each propensity and sentiment may be called into activity by presentment of its object, and, when active, the corresponding feeling or emotion attends it, in virtue of its constitution. Happiness consists in the harmonious gratification of all the faculties; and the very essence of gratification is activity. "Thus the muscular system," says Dr. A. Combe, "is gratified by motion, and pleasure arises; the eye is gratified by looking at external objects; Combativeness, by overcoming opposition; Destructiveness, by the sight of destruction, and the infliction of pain; Benevolence, by the relief of suffering; Hope, by looking forward to a happy futurity; Cautiousness, by a certain degree of uncertainty and anxiety, &c. As the degree of enjoyment corresponds to the number of faculties simultaneously active and gratified, it follows, that a tragic scene, which affords a direct stimulus to several of the faculties, at the same moment, *must be agreeable*, whatever these may be;—*1st*, If it does not at the same time, outrage any of the other feelings; *2dly*, If it does not excite any faculty so intensely as to give rise to pain; just as too much light hurts the eyes, and too much exertion fatigues the muscles." In the play of *Pizarro*, for example, when the child is introduced, its aspect and situation instantly excite Philoprogenitiveness, and individuals possessing this organ largely, feel an intense interest in it;—the representation of danger to which it is exposed rouses Cautiousness, producing *fear for its safety*; when *Rolla* saves it, this fear is allayed, Philoprogenitiveness is highly delighted, Benevolence also is gratified; and the excitement of these faculties is pleasure. All this internal emotion takes place simply in consequence of the constitution of the faculties, and the relation established by nature betwixt them and their objects, without the understanding requiring to be imposed upon, or to form any theory about the scenes, whether they are real or fictitious. A picture raises emotions of sublimity or beauty on the same principles. "The cloud-capped towers and gorgeous palaces" are fitted by nature to excite Ideality, Wonder, and Veneration; and these being active, certain emotions of delight are experienced. When a very accurate representation of these towers and palaces is executed on canvass, their appearance in the picture excites the same faculties into action, which their natural lineaments would call up, and the same pleasures kindle in the soul. But what would we think, if Mr. Stewart assured us that we required to believe the paint and the canvass to be real stone and lime, and the figures to be real men and women, before we could enjoy the scene? And yet this would be as reasonable as the same doctrine applied to tragedy. We may weep at a tragedy represented on canvass,and know all the while that there are only colors and forms before us. On the same principle we may shed tears at seeing a tragedy acted, which is just a representation, by means of words and gestures, of objects calculated to rouse the faculties, and yet suffer no delusion respecting the reality of the piece.

If the propensities and sentiments become excessively active from these representations, they may overpower the intellect; a temporary belief may follow; and the feeling will be the stronger; but, in this case, it appears to me, that the strong emotion does not arise from a *previous illusion of the understanding*; but that misconception in the intellect is the *consequence* of the feelings having become overwhelming.

The law of our constitution now explained, accounts also for several of the phenomena of insanity. All the organs are liable to become violently and involuntarily active through disease; this produces mental excitement, or violent desires, to act in the direction of the diseased organs. If Combativeness and Destructiveness be affected in this manner, madness or fury, which is just an irresistible propensity to violence and outrage, will ensue. If the organ of Cautiousness become involuntarily and permanently active through disease, fear will constantly be felt, and this constitutes melancholy. If Veneration and Hope be excited in a similar way, the result will be involuntary emotions of devotion, the liveliest joy and anticipations of bliss; which feelings, fixed and immoveable, amount to religious insanity. It frequently happens that a patient is insane on a single feeling alone, such as Fear, Hope, or Veneration, and that, if the sphere of activity of this feeling be avoided, the understanding on other subjects shall be sound, and the general conduct of the patient rational and consistent. Thus, a person insane in Self-Esteem, sometimes imagines himself a King; but on all other topics he may evince sound sense, and consecutiveness of judgment. This results from the organs of intellect being sound, and only the organ of Self-Esteem diseased. Sometimes well-meaning individuals, struck with the clearness of the understanding in such patients, set themselves to point out, by means of argument, the erroneous nature of the notions under which they suffer, supposing that, if they could convince their intellect of the mistake, the disease would be cured; but the malady consists in an unhealthy action of the organ of a sentiment or propensity, and as long as the disease lasts, the insane feeling, which is the basis of the whole mental alienation, will remain, and argument will do as little to remove it, as a speech in removing gout from the toe.

The converse of the doctrine now explained, also holds good; that is to say, if the organ be not active, the propensity or emotion connected with it cannot be felt; just as we cannot hear a sound when the auditory apparatus is not excited by the air.

The most important practical consequences may be derived from this exposition of our mental constitution. The larger any organ is, the more is it prepared to come into activity, and the smaller, the less so. Hence an individual prone to violence, to excessive pride, vanity, or avarice, is the victim of an unfavorable developement of brain; and in our treatment of him we ought to bear this fact constantly in mind. If we had wished, for example, to render Bellingham mild, the proper proceeding would have been, not to abuse him for being ill-tempered, for this would have directly excited his Destructiveness, the largeness of which was the cause of his wrath, but to address ourselves to his Benevolence, Veneration, and Intellect, that, by rousing them, we might assuage the vehemence of Destructiveness. In a case like that of David Haggart, in whom Conscientiousness was very deficient, we ought always to bear in mind, that in regard to feeling the obligation of justice, such an individual is in the same state of unhappy deficiency as Mr. Milne is in perceiving colors, and Anne Ormerod in perceiving melody; and our treatment ought to correspond. We would never think of supplying Anne Ormerod's deficiency of Tune by harsh treatment; and if Haggart's Conscientiousness was naturally as deficient, we could as little have succeeded in enabling him to feel and act justly by mere severity of punishment. The reasonable plan in such cases is, first, to place the individual in circumstances as little as possible requiring the exercise of the deficient faculty; not to place Anne Ormerod in a band of singers; nor one like David Haggart in a confidential situation, where property is entrusted to him. In the next place, to present to all the organs of the higher sentiments which he possesses largely developed, motives calculated to control the propensities, so as to supply, as much as possible, the place of the feeble Conscientiousness.

If the principle that large organs give strong desires, and small organs weak impulses, be correct, Phrenology must be calculated in an eminent degree to be practically useful in society. If, in choosing a servant, we are afraid or ashamed to examine the head, and light upon one with a brain extremely deficient, like that of Mary Macinnes, and if certain strong animal feelings accompany this developement, we shall unquestionably suffer great annoyance as the consequence. If we select a servant very deficient in Conscientiousness as a child's maid, she will labor under a natural blindness to truth, and not only lie herself, but teach the children entrusted to her care this abominable vice. If a merchant selects a clerk with a head like David Haggart's, and places money at his disposal, the strong animal feelings, unrestrained by Conscientiousness, will prompt him to embezzle it. It is incredible to what an extent evils might be mitigated, or prevented in society, by the practical application of this principle. I have applied it in the selection of servants with great advantage.

In the next place, if the presentment of the object of a faculty rouses it into instant activity, as suffering benevolence, or danger fear, this becomes a highly important principle in the education of children. If we put on the natural language of Destructiveness and Self-Esteem in our intercourse with them, we shall cultivate those very faculties in their minds, by exciting the organs ; if we manifest Benevolence and Veneration in their presence, we shall excite the same faculties in them ; if we discourse constantly about money, the desire of increasing it, and the fear of losing it, we shall stimulate the organs of Acquisitiveness, and Self-Esteem in them, and increase the power of these propensities.

In the *third* place, The faculties of which we are now speaking may be excited to activity, or repressed, *indirectly*, by an effort of the will. Thus, the Knowing and Reflecting Faculties have the function of forming ideas. If these faculties be employed to conceive internally objects fitted by nature to excite the propensities and sentiments, the latter will start into activity in the same manner, but not with so much intensity as if their appropriate objects were externally present. For example, if we conceive inwardly an object in distress, and Benevolence be powerful, compassion will be felt, and tears will sometimes flow from the emotion produced. In like manner, if we wish to repress the activity of Ideality, we cannot do so merely by willing that the sentiment be quiet; but if we conceive objects fitted to excite Veneration, Fear, Pride, or Benevolence, the organs of these feelings will then be excited, and Ideality will sink into inactivity. The vivacity of the feeling, in such cases, will be in proportion to the strength of the conception, and the energy of the propensities and sentiments together.

If the organ of any propensity or sentiment enter into vigorous activity from internal causes it will prompt the intellectual faculties to form conceptions fitted to gratify it; or, in other words, the habitual subjects of thought in the mind are determined by the organs which are predominantly active from internal excitement. If the cerebellum be permanently active, the individual will be prone to collect pictures, books and anecdotes, fitted to gratify this feeling; his mind will be much occupied with such ideas, and they will afford him delight. If, in another individual, Constructiveness, Ideality and Imitation, be internally active, he will desire to see pictures, busts, and works of art, in which skill, beauty and expression, are combined; or he will take pleasure in inventing and constructing them. He will know much about such objects, be fond of possessing them, and of talking of them. If, in another individual, Acquisitiveness be internally active, he will feel a grea and natural interest in all matters connected with wealth, and l inspired with an eager curiosity to know the profits of differ branches of trade, and the property possessed by different indi uals. If Benevolence be internally active, the mind will habitually on schemes of philanthropy, such as those of Ho

Mr. Owen, or Mrs. Fry. In these cases, the *liking* for the object or pursuit may depend upon the particular propensities or sentiments which are active; the intellectual faculties serving as the ministering instruments of their gratification; or it may arise from the activity of the intellectual faculties themselves, if the pursuit is purely intellectual, such as the study of mathematics or Algebra.

These principles explain readily the great variety of taste and dispositions among mankind; for in no two individuals is exactly the same combination of organs to be found, and hence every one is inspired with feelings in some degree peculiar to himself, and desires objects fitted for his special gratification.

As the faculties of the Propensities and Sentiments do not form Ideas, and as it is impossible to excite or recall directly by an act of the will, the feelings or emotions produced by them, it follows that these faculties have not the attributes of Perception, Conception, Memory, Imagination: They have the attribute of Sensation alone; that is to say, when they are active, a sensation or emotion is experienced. Hence Sensation is an accompaniment of the activity of all the faculties which feel, and of the nervous system in general; but sensation is not a faculty itself.

The laws of the KNOWING and REFLECTING faculties are different: These faculties form Ideas, and perceive Relations; they are subject to the will, or rather constitute will themselves, and minister to the gratification of the other faculties which only feel.

1*st*, These faculties, also, may be active from excitement of the organs by internal causes, and then the kinds of ideas which they are fitted to form are presented involuntarily to the mind. The musician feels the notes flowing on him uncalled for. A man in whom Number is powerful and active calculates by a natural impulse. He in whom Form is vigorous, conceives figures by internal inspiration. He in whom Causality is powerful and active, reasons while he thinks, without an effort. He in whom Wit is energetic, feels witty conceptions flowing into his mind spontaneously, and even at times and places when he would wish them not to appear.

2dly, These faculties may be excited by the presentation of external objects fitted to call them into activity ; and,

3dly, They may be excited to activity by an act of volition.

When excited by the presentation of external objects, the objects are PERCEIVED, and this act is called **PERCEPTION.** Perception is the lowest degree of activity of these faculties ; and if no idea is formed when the object is presented, the individual is destitute of the power of manifesting the faculty, whose function is to perceive objects of that kind. Thus, when tones are produced, he who cannot perceive the melody of them, is destitute of the power of manifesting the faculty of Tune. When a colored object is presented, and the individual cannot perceive, so as to distinguish the tints, he is destitute of the power of manifesting the faculty of color. When the steps of an argument are logically and distinctly stated, he who cannot perceive the relation betwixt the steps, and the necessity of the conclusion, is destitute of the power of manifesting the faculty of Causality ; and so on. Thus Perception is a mode of action of the faculties which form ideas, and implies the lowest degree of activity ; but Perception is not a separate faculty.

This doctrine is not theoretical, but is clearly indicated by facts. In the case mentioned by Mr. Hood,* a patient having lost the *memory* of words, yet enjoyed *perception* of their meaning. He understood language spoken by others, or, in other words, the organ of Language retained so much of its power as to enable him to *perceive* the meaning of words when presented to his mind, but so little of its energy as not to be adequate to the act of recalling words by an act of his will, so as to express his thoughts. The case of Mr. Ferguson † is another in point. He enjoyed so great a degree of the organ of Size as to enable him to perceive distance when natural scenery was presented to his mind, but so little as to be quite unable to recollect it, when the objects were withdrawn. Mr. Sloane ‡ is in a similar situation in regard to coloring. He *perceives* the *differences* of hues when they are presented to his eyes, but has so little of the organ that he does not recollect, so as to be able to name, them separately. Many persons are in a similar condition in regard to music; they perceive melody and enjoy it, when presented to the ear, but have so little of the faculty of Tune as to be unable to recall the notes after they have ceased to be heard. The same hold in regard to the reflecting powers. Many persons possess faculties acute and vigorous enough to perceive an argument, if placed before them, who are quite incapable of inventing or even reproducing it themselves.

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* Page 430. † Page 366. ‡ Page 378.

Here, again, a highly valuable practical result presents itself. If we place a person with a forehead like Fraser's, in whom the reflecting organs are deficient, in a situation, or apply to him for advice in circumstances, requiring great natural sagacity and depth of intellect, we shall assuredly be disappointed; whereas, if we apply to one having such a combination as Dr. Franklin, in whom reflection was very large, there will be much more of the instinctive capacity of tracing out beforehand the probable chain of Causation, and anticipating the effects of measures which we propose to follow. Fraser might show good sense and sound judgment *after* the consequences were pointed out to him, because he possesses developement sufficient to give him *perception* of causation when presented; but he could not, like Franklin, anticipate effects, as this requires a higher degree of power.

According to this view of Perception, which regards it as the lowest state of activity of *every* intellectual faculty, an individual may possess acute powers of perception as to one class of objects, and be quite unable to perceive others. Thus Mr. Milne had an acute perception of form, although he cannot perceive some colors; other individuals perceive symmetry distinctly who cannot perceive melody. This exposition has the merit of coinciding with nature; for we frequently meet with such examples as I have now cited.

The metaphysicians, on the other hand, treat of perception as a *general faculty*, and when their doctrine is applied to nature, the extraordinary spectacle is presented of their *general power* performing in the same individual half its functions with great effect, while it is wholly inefficient as to the other half; just as if a leg could walk east and be quite incapable of walking west. Dr. Thomas Brown has abandoned this absurdity; and differs from Reid, Stewart, and all his predecessors, in denying perception to be any thing more than an act of the general power of the mind. We call it an act of several special faculties of the mind; but with these Dr. Brown was not acquainted.

CONCEPTION. When the Knowing or Reflecting organs are powerfully active from internal excitement, whether by the will or from natural activity, ideas are vividly and rapidly conceived; and the act of forming them is styled CONCEPTION; if the act amounts to a very high degree of vivacity, it is called IMAGINATION. Thus perception is the lowest degree of activity of any of these faculties excited by an external object; and conception or imagination are higher degrees of activity depending on internal causes, and without the interference of an external object. Each faculty performs the act of conception in its own sphere. Thus, if one person have a powerful organ of Tune, he is able to conceive, or call up in his own mind, the notes of a tune, when no instrument is sounding in his ears. If his organ of Form be very small, he may not be able to bring shapes before his mind with equal facility. Some persons read music like a book, the written sign of a note being sufficient to enable them to call up the impression of the note itself in their minds. This is a very high degree of activity of the faculty. Temperament has a great effect on internal activity; the lymphatic temperament requires external objects to rouse it to vivid action, while the sanguine and nervous glow with spontaneous and constitutional vivacity. Hence imagination, which results from a high degree of activity, is rarely found with a temperament purely lymphatic, but becomes exalted in proportion to the approach of the temperament to the nervous.

In treating of Coloring, I cited a passage from Mr. Stewart, in which, after stating the fact that some men are able to distinguish different tints when presented together, who cannot name them when separate, he attributes this want of discrimination to defect in the power of *conception*, probably arising, he supposes, from early habits of inattention. So far he is correct: an individual like Mr. Sloane may be found, whose organ of Coloring enables him to distinguish hues when seen in juxta-position, and is yet so weak as not to give him *conception* or memory of them when seen apart, and this would certainly indicate a deficient power of *conception;* but then the power of conception may be deficient in this faculty alone, and very vigorous in all the others. On Mr. Stewart's principle, that conception is a general power, we would have the anomaly of its performing one portion of its functions well, while deficient as to another, which defect is accounted for by him, by supposing early habits of inattention; whereas if a faculty be naturally strong, it eagerly attends to its objects, just as a vigorous and empty stomach desires food.

When any of the Knowing or Reflecting organs is internally active, the mind conceives, or is presented with ideas of the objects which it is fitted to perceive. Thus Locality, Coloring, and Size, being active, we are able, with our eyes closed, to conceive a landscape in all its details of hill and dale, sunshine and shade. If this internal activity become morbid, through disease of the organs, then ideas become fixed, and remain involuntarily in the mind; and if this is long continued, it constitutes insanity. Many persons have experienced, when in the dark, vivid impressions of figures of every variety of color and form passing before the mind, sometimes invested in alarming brilliancy and vivacity. I conclude that this arises from an internal excitement of the organs situated at the superciliary ridge, viz. Form, Locality, Coloring, &c. occasioned generally by an unusual accumulation of blood. This affection is, in most instances, only momentary; but suppose that it were to become fixed and continuous, then the mind would be haunted with permanent and vivid conceptions of innumerable and fantastic beings, invested with more than the forms and hues of reality. This would be insanity; not a diseased feeling, such as melancholy, or fury, or religious joy, but an intellectual delusion; so that every sentiment might be sound, and yet this aberration of intellect remain fixed and immovable by the will. If we suppose this disease to take place in several Knowing organs, leaving the organs of Reflection entire, it is quite possible to imagine that the individual may have false perceptions on some points, and not only be sane on all others, but be able, by means of the faculties that remain unaffected, to distinguish the erroneous impressions.

The phenomena of apparitions, or spectral illusions, may be accounted for by the principles now explained. If several organs become active through internal excitement, they produce involuntary conceptions of outward objects, invested in all the attributes of Form, Color, and Size, which usually distinguish reality. Several interesting examples of this affection are given in the Phrenological Journal.*

The Knowing organs, and the organ of Wonder, seem to be the chief seats of these diseased perceptions, which appears obvious from the descriptions of the apparitions themselves. Thus Nicolai, the Berlin bookseller, saw the *form* as of a deceased person within eight steps of him—*vast numbers* of human and other forms equally in the day and night—crowds of both sexes—people on horseback, birds and dogs—of natural size, and distinct as if alive,—of natural color, but paler than reality. He then *began to hear them talk*. On being blooded with leeches, the room was crowded with spectres—in a few hours their *color* began to fade, but in a few more they were white. They dissolved in air, and *fragments* of them were visible for some time. Dr. Alderson of Hull furnishes two other cases. Mr. R. left his wife and family in America, but saw them and conversed with them in this country—saw *trains* of living and dead persons—in a *bright brass lock* again saw his transatlantic friends, and always in that lock—had violent headache. A pothouse-keeper in Hull saw a soldier in his cellar whom he endeavored to seize, but found an illusion—attempted to take up oysters from the ground, which were equally unreal—saw *crowds* of the living and dead—scarcely knew real from spectral customers—suffered repeated flogging from a wagoner with a whip, who was an illusion. In Vol. II. of the Journal, page 111, is given the case of a man in the west of Scotland, with a large organ of *Wonder*, who sees inanimate things and persons in visions—had a *spotted carpet* for a long time before his eyes—a funeral—a log of wood on wheels. His son has the same tendency—he followed a beggar, who glided and vanished into a wall. All these perceptions are clearly referrible to the Knowing organs.

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* Vol. i. p. 541, and vol. ii. pp. 111, 293, 362

Mr. Simpson has communicated to the Phrenological Journal the following case, which is particularly interesting and instructive. Concomitance of pain in the precise seats of the organs, with disorder of their functions, forms a striking feature in it; and the author states, that he is ready to afford the means of verification of the facts to any philosophical inquirer.

"Miss S. L.," says Mr. Simpson, "a young lady, under twenty years of age, of good family, well educated, free from any superstitious fears, and in perfect general health of body and soundness of mind, has nevertheless been for some years occasionally troubled, both in the night and in the day, with visions of persons and inanimate objects, in almost all the modes and forms which we have already related. She was early subject to such illusions occasionally, and the first she remembers was that of a *carpet* spread out in the air, which descended near her, and vanished away.

"After an interval of some years, she began to see human figures in her room as she lay wide awake in bed, even in the daylight of the morning. These figures were *whitish*, or rather *gray* and *transparent* like *cobweb*, and generally above the *size* of life. At this time she had acute headaches, very singularly confined to one small spot of the head; on being asked to point out the spot, the utmost care being taken not to lead her to the answer, our readers may judge of our feelings as phrenologists, when she touched with her fore-finger and thumb, *each side of the root of the nose, the commencement of the eyebrows, and the spot immediately over the top of the nose, the ascertained seats of the organs of Form, Size, and Lower Individuality!* Here, particularly on each side of the root of the nose, she said the sensation could only be compared to that of running sharp knives into the part. The pain increased when she held her head down, and was much figures presented themselves before her in inextricable disorder, and still more when they changed—as with Nicolai—from whole figures to parts of figures—faces, and half-faces, and limbs,—sometimes of inordinate size and dreadful deformity. One instance of illusive *Disorder*, which she mentioned, is curious; and has the farther effect of exhibiting (what cannot be put in terms except those of) the derangement of the just perception of gravitation or equilibrium (*Weight*). One night as she sat in her bed-room, and was about to go to bed, a *stream* of spectres, persons' faces, limbs, in the most shocking confusion, seemed to her to pour into her room from the window, in the manner of a cascade! Although the cascade continued apparently in rapid descending motion, there was no accumulation of figures in the room, the supply unaccountably vanishing after having formed the cascade. *Colossal* figures are her frequent visitors. (*Size.*)

"Real but inanimate objects have assumed to her the form of animals; and she has often attempted to lift articles from the ground, which, like the oysters in the pot-house cellar, eluded her grasp.

"More recently she has experienced a great aggravation of her alarms; for, like Nicolai, she *began* to hear her spectral visitors speak!—With Mr. R. of Hull, the spectres always spoke. At first her crowds kept up a buzzing and indescribable *gibbering*, and occasionally joined in a loud and terribly disagreeable *laugh*, which she could only impute to fiends. These unwelcome sounds were generally followed by a rapid and always alarming advance of the figures, which often on those occasions presented very large and fearful faces, with insufferable glaring eyes close to her own. All self-possession then failed her, and the cold sweat of terror stood on her brow. Her single figures of the deceased and absent then began to gibber, and soon more distinctly to address her; but terror has hitherto prevented her from understanding what they said.*

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* We may here mention, that the phrenological explanations of the distressing affection which have been given Miss S. L., have had the happy effect of affording her much more composure when visited by her phantoms than she thought possible. She is still terrified with their speaking; but her mind, on the whole is greatly eased on the subject.

at—that object being in itself real and single ;—a book, a footstool, a work-box, would increase to twenty, or fifty, sometimes without *order* or arrangement, and at other times piled regularly one above another. Such objects deluded her in another way, by increasing in *size*, as she looked at them, to the most amazing excess,—again resuming their natural size—less than which they never seemed to become,—and again swelling out. *Locality*, over-excited, gave her the illusion of objects, which she had been accustomed to regard as fixed, being out of their places ; and she thinks, *but is not sure*, that, on one occasion, a door and window in one apartment seemed to have changed places,—but, as she added, she might have been deceived by a mirror. This qualification gave us the more confidence in her accuracy, when, as she did with regard to all her other illusions, she spoke more positively. She had not hitherto observed a great and painful confusion in the visions which visited her, so as to entitle us to infer the derangement of *Order*. *Individuality*, *Form*, *Size*, *Weight*, *Coloring*, *Locality*, and *Number* only, seemed hitherto affected.

"For nearly two years, Miss S. L. was free from her frontal headaches, and — mark the coincidence — untroubled by visions, or any other illusive perceptions. Some months ago, however, all her distressing symptoms returned in great aggravation, when she was conscious of a want of health.* The pain was more acute than before along the frontal bone, and round and in the eyeballs ; and all the organs there situated recommenced their game of illusion. Single figures of absent and deceased friends were terribly real to her, both in the day and the night, sometimes *cobweb*, but generally colored. She sometimes saw friends on the street, who proved phantoms when she approached to speak to them ; and instances occurred where, from not having thus satisfied herself of the illusion, she affirmed to such friends, that she had seen them in certain places, at certain times, when they proved to her the clearest *alibi*. The *confusion* of her spectral forms now distressed her.—(*Order* affected.) The oppression and perplexity was intolerable when

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* Constitutional irregularity would, it is very probable, explain the whole disorder.

Another form of mental derangement, arising from internal excitement of the organs, is the tendency to involuntary and sometimes unconscious manifestation of the faculties. Some insane patients talk night and day to themselves; and in hysterical affections, the individual often alternately laughs and cries involuntarily. The last phenomena are explicable by the supposition of different organs becoming active and quiescent in turns, in consequence of spasmodic or some other irregular action in the brain. Dr. A. Combe saw a lady in Paris, who, when just emerging from insensibility, occasioned by a fit of apoplexy, manifested the faculties of Wit and Imitation quite unconsciously, but with so admirable an effect, that her relations were forced into fits of laughter, mingled with floods of tears for her unhappy condition: on her recovery, she did not know of the exhibitions she had made. The organs of Wit and Imitation were large. Phrenology accounts for such facts, in a simple and natural manner, by the effects of diseased activity of the organs.

DREAMING may now be analyzed. If the greater number of the organs remain inactive, buried in sleep, and two or three, from some internal excitement confined to themselves, become active, these will present the mind with corresponding conceptions, and being separated in their action from the other organs, which, in the waking state, generally co-operate with them, the result will be the creation of disjointed and fantastic impressions of objects, circumstances, and events; in short, all the various phenomena of dreaming. Thus, every circumstance which disturbs the organization of the body may become the cause of dreams; a heavy supper, by encumbering the digestive powers, affects the brain painfully by sympathy; and hence the spectres and hydras dire which affect the sleeping fancy. Fever, by keeping up a morbid excitement in the whole system, sustains the brain in a state of uninterrupted activity; and hence the sleeplessness which attends the higher, and the disturbed dreams which accompany the lower, degrees of that disease. Thus, also, is explained another familiar fact relative to the mind. If, during day, we have been excessively engaged in any particular train of study, it haunts us in our dreams. During day the organs of the faculties chiefly employed were maintained in a state of action, intense and sustained, in proportion to the mental application. By a general law of the constitution, excessive action does not subside suddenly, but abates by insensible degrees;—on going to sleep, so much activity continues to stimulate the organ, that the train of ideas goes on; till, after long action, it at last entirely ceases.

On inquiry I find, what indeed might have been anticipated *a priori*, that dreams in different individuals have most frequently relation to the faculties whose organs are largest in their brains. A friend, in whom Tune is large, and Language deficient, tells me that he has frequently dreamt of hearing and making music, but very rarely of composing discourses, written or oral. Another gentleman, in whom Language is full, and Tune deficient, states that he never but once in his life dreamt of hearing a musical note, while many a laborious page he has imagined himself writing, reading, and speaking in his dreams; nay, he has repeatedly dreamt of conversing with foreigners in their own tongue, with a degree of fluency which he could never command while awake. In the same way, a person in whom Locality is large assured me, that he had very frequently dreamt of travelling in foreign countries, and enjoyed most vivid impressions of the scenery; while another, in whom that organ is small, never dreamt upon such a subject. One friend, in whom Combativeness is large, told me that many a tough and long contested battle he had fought in his dreams; while another, in whom that organ is moderate, stated that he never dreamt of fighting but once, and that was when his imagination placed him in the hands of murderers, whose heads he attempted to break with a poker, and wakened in terror at his own combative effort.

A curious illustration of the principle now under elucidation occurs in Scott, who was executed in 1823, at Jedburgh, for murder. It is stated in his life, that some years before the fatal event, he had dreamt that he had committed a murder, and was greatly impressed with the idea. He frequently spoke of it, and recurred to it as something ominous, till at last it was realized.

The organ of Destructiveness was large in his head, and so active that he was an enthusiast in poaching, and prone to outrage and violence in his habitual conduct. This activity of the organ might take place during sleep, and then it would inspire his mind with destructive feelings, and the dream of murder would be the consequence. From the great natural strength of the propensity, he probably may have felt, when awake, an inward tendency to this crime, and joining this and the dream together, we can easily account for the strong impression left by the latter on his mind.

I presume, although I do not know it as a fact, that persons in whom Cautiousness is small, and Hope and Benevolence large, will, when in health, generally enjoy brilliant and happy dreams; while others, in whom Cautiousness is very large, and Hope small, will be wading in difficulties and wo.

Mr. Andrew Carmichael of Dublin, in a pamphlet on Dreaming, which he wrote some years ago, suggests the idea that sleep may be the occasion, when the waste of substance in the brain is repaired by the depositation of new particles of matter. There is no direct evidence of the truth of this conjecture; but the brain, like every other part of the animal structure, is furnished with blood-vessels and absorbents, and is known to waste like them. That the waste should be repaired, therefore, is a fact of necessary inference; and that the period of sleep, when the mental functions are suspended, would be particularly suitable to this operation, is also matter of very plausible conjecture; but here the point at present rests, and I mention it merely as a suggestion.

This view of the phenomena of dreaming gives a death-blow to the superstitious notion of warnings and supernatural communications being now made to the mind in sleep; while it explains naturally the occasional fulfilment of dreams, as in the case of Scott.

Thus the internal excitement of the organs of intellect produces conception; the ideas conceived bearing relation always to the particular organ or organs called into action. This excitement, when morbid and involuntary, produces fixed conceptions or ideas, which is a species of insanity; and the same excitement taking place in some organs during sleep, while others remain in a state of inactivity, produces dreams. Hence these phenomena are all connected in their cause, however dissimilar in their external appearance.

IMAGINATION. The metaphysicians frequently employ the words Imagination and Fancy, but neither of them are synonymous with the phrenological term Ideality. *Imagination* is defined to be, "The power of forming ideal pictures; the power of representing things absent to one's self or others." In this sense, which I hold to be the primitive and most correct, there is scarcely a shade of difference betwixt Conception and Imagination. Locality, Size, Coloring, and Individuality, being active by command of the will, we may call up in our mind the features of a landscape, and we may then be said to *conceive* it. If to this act the word *imagine* were applied, and we were said to *imagine* a landscape, it would not be felt as improper. Mr. Stewart, therefore, if he had confined Imagination to the limits here pointed out, viz. "of representing things absent to one's self or others," would not be blameable for doubting if it were a faculty distinct from Conception, which he has ranked as such. At the same time, his notion, that "Imagination is not the gift of nature," but formed "by particular habits of study or of business," is even on this supposition erroneous; for there is no mode of activity of the mind which is not the gift of nature, however much it may be improved by judicious exercise. There is, however, a difference between Conception and Imagination; the former is the cool and methodical representation of things absent, as they exist in nature, to one's self, or to others. Imagination is the *impassioned representation* of the same things, and not merely in the forms and arrangements of nature, but in new combinations formed by the mind itself. In Phrenology, therefore, Conception is viewed as the *second* degree of activity of the Knowing and Reflecting Faculties, and Imagination as the *third*. Imagination is just intense, glowing, forcible, conceptions, proceeding from great activity of the intellectual faculties, not confined to real circumstances, but embracing as many new combinations as they are capable of calling forth. In this, way, Imagination may be manifested without ornament, or illustration; and this is the case when such faculties as Form, Locality, Order, Coloring, or Causality act by themselves, unaided by Ideality and Comparison. Hence, the assertion of D'Alembert,* that "metaphysics and geometry are of all the sciences belonging to reason those in which Imagination has the greatest share," is quite intelligible, and may have been seriously said. If in this individual, Form, Size, Locality, Order, Number, and Causality, in short, the faculties which go to constitute a genius for mathematics and metaphysics, were very active, he would be conscious of imagining, with great interest and vivacity, many new relations of space, magnitude, and causation, and looking to the usual definitions of Imagination, he was entitled to designate these acts as exercises of that faculty.

The metaphysicians attach a different and more extensive meaning to the word "Fancy;" and, according to my understanding of the functions ascribed by them to this supposed power, it embraces a wider range than Imagination, and necessarily implies ornament and illustration. Hence, Comparison and probably Ideality require to be combined with the Activity of the Knowing and Reflecting Faculties to constitute Fancy. The latter faculties will call up ideas of objects as they exist in nature, Ideality will invest them with beauty, Comparison will cull similes and trace analogies throughout the boundless fields of space, and the intellectual compound may be designated as the Creation of Fancy. The significations commonly attached to the words Imagination and Fancy, are, however, by no means precise. The conceptions of the Knowing and Reflecting Faculties, illustrated and diversified by Comparison alone, are frequently designated Fancy; and in this sense an author or orator may be said to possess a brilliant fancy, although Ideality be by no means a predominant organ in his head. On the other hand, many passages of Milton are the result merely of the Knowing Faculties, and Causality imbued with intense Ideality, and in them Comparison supplies but few illustrations;

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* Stewart, Prelim Dissert. to Sup. Encyclop. Brit. Part I. p. 6.

nevertheless these are said to be highly imaginative, and certainly are so. Thus, in judging of genius, Phrenology teaches us to be minute and discriminating in our analysis, and to avoid the error of inferring the presence of *all* the powers of the mind in an eminent degree, because one great talent is possessed.

Improvisatori are able, without study or premeditation, to pour out thousands of verses *impromptu*, often of no despicable quality, upon any subject which the spectators choose to suggest. I have not seen any of these individuals, but Phrenology enables us to conjecture the constituent elements of their genius. In the first place, we may infer that they possess a high nervous or sanguine temperament, communicating to the brain great internal activity. They would require, in the next place, Language, Individuality, Eventuality, Comparison, Tune, and Ideality, all large. The great and uncommon activity supposed, would produce the readiness of conception and warmth of feeling which are the first requisites; large endowment of Individuality and Eventuality would supply facts and incidents necessary to give substance and action to the composition; Comparison would afford similes, metaphors and illustrations; Ideality would contribute elevation; Tune give rhythm, and Language afford expression to the whole ideas so formed and combined. Observation only can determine whether these conjectures be correct, but the causes here assigned appear to be adequate to the effects, and this, in a hypothesis, is all that can be expected.

MEMORY also is a mode of Activity of the faculties. In most individuals, the mind has no power of calling up, into fresh existence, the emotions experienced by means of the propensities and sentiments, by merely willing them to be felt, and hence we hold these faculties not to possess Memory. The ideas, however, formed by the Knowing and Reflecting Faculties, can be reproduced by an act of recollection, which powers are, therefore, said to have Memory. Memory is thus merely a degree of activity of the Knowing and Reflecting Organs. I have said that Conception and Imagination also result from the internal activity of the organs; and the question naturally arises, in what respect does Memory differ from them? The difference appears to be this,—in Conception and Imagination, new combinations of ideas are formed, not only without regard to the time or order in which the elementary notions had previously existed, but even without any direct reference to their having at all existed before. Memory, on the other hand, implies a new conception of impressions previously received, attended with the idea of past time, and consciousness of their former existence; and it follows the order of the events as they happened in nature. Each organ enables the mind to recall the impressions which it served at first to receive. Thus, the organ of Tune will recall notes formerly heard, and give the memory of music. Form will recall figures previously observed, will give the memory of persons, pictures, and crystals, and produce a talent for becoming learned in matters connected with such objects. Individuality and Eventuality will confer memory for facts, and render a person skilled in history, both natural and civil. A person in whom Causality is powerful, will possess a natural memory for metaphysics. Hence there may be as many kinds of memory as there are Knowing and Reflecting Organs; and an individual may have great memory for one class of ideas, and very little for another; George Bidder had an almost inconceivable power of recollecting arithmetical calculations, while in memory of history or languages he did not surpass ordinary men. As the recollection of facts and occurrences is what is commonly meant, in popular language, by a great memory, individuals so gifted will generally be found to possess a good developement of Individuality, Eventuality, and probably of Language.

There appears to be a quality of brain, which gives retentiveness, so that one individual retains impressions much longer than another, although their combination of organs be the same. It is said that Sir Walter Scott possesses this characteristic in a high degree; but the cause of it is unknown. This fact does not invalidate the theory of Memory now given; because in every individual, the power of retaining one kind of impressions is greater than that of retaining another, and this power bears a uniform relation to the size of the organs. The celebrated Cuvier affords another striking illustration of this remark. He possessed the quality of retentiveness, the cause of which is unknown, in an extraordinary degree; but the power was strongest in his largest intellectual organs. De Candollo describes his mental qualities as follows: "His range of knowledge was surpassingly great. He had all his life read much,—seen much,—and had never forgotten any thing. A powerful memory, sustained and directed by sound judgment and singular sagacity, was the principal foundation of his immense works and his success. This memory was particularly remarkable in what related to forms, considered in the widest sense of that word: the figure of an animal, seen in reality or in drawing, never left his mind, and served him as a point of comparison for all similar objects. The sight of a map, of the plan of a city, seemed sufficient to give him an almost intuitive knowledge of the place; and among all his talents, that memory which may be called *graphic* seemed most apparent: he was consequently an able draughtsman, seizing likenesses with rapidity and correctness, and had the art of imitating with his pencil the appearance of the tissue of organs, in a manner peculiarly his own, and his anatomical drawings were admirable."—Edin. New Philosophical Journal, vol. xiv. No. 23.

Dr. Watts seems to have anticipated, by a very acute conjecture, the real philosophy of Memory. He says, "It is most probable that those very fibres of the brain which assist at the first idea or perception of an object, are the same which assist also at the recollection of it; and then it will follow, that the memory has no special part of the brain devoted to its own service, but uses all those in general which subserve our sensation, as well as our thinking and reasoning powers."* This conjecture coincides exactly with Mr. Hood's case of the person in Kilmarnock, who, although able to articulate, lost all power of recollecting arbitrary signs, and, with a sound judgment and clear understanding, forgot, through disease, his own name and the names of every person and thing with which previously he was most familiar. This could be accounted for only on the principle, that the organ of Language children while in this state, or, as Mrs. L. called it, 'dead asleep; answered questions put to her, in such a manner as to show that she understood the question; but the answers were often, though not always, incongruous." One day, in this state, she "set the breakfast with perfect correctness, with her eyes shut. She afterwards awoke with the child on her knee, and wondered how she got on her clothes." Sometimes the cold air wakened her, at other times she was seized with the affection while walking out with the children. "She sang a hymn delightfully in this state, and from a comparison which Dr. Dyce had an opportunity of making, it appeared incomparably better done than she could accomplish when well."

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* Page 18.

"In the meantime, a still more singular and interesting symptom began to make its appearance. *The circumstances which occurred during the paroxysm were completely forgotten by her when the paroxysm was over, but were perfectly remembered during subsequent paroxysms;*" and it is on this account that I have introduced the case under the head of Memory. "Her mistress said, that when in this stupor on subsequent occasions, she told her what was said to her on the evening on which she baptized the children." Other instances of this kind are given. A depraved fellow-servant, understanding that she wholly forgot every transaction that occurred during the fit, clandestinely introduced a young man into the house, who treated her with the utmost rudeness, while her fellow-servant stopped her mouth with the bed-clothes, and otherwise overpowered a vigorous resistance which was made by her, even during the influence of her complaint. Next day she had not the slightest recollection even of that transaction, nor did any person interested in her welfare know of it for several days, till she was in one of her paroxysms, when she related the whole facts to her mother. Next Sunday she was taken to the Church by her mistress, while the paroxysm was on her. She shed tears during the sermon, particularly during the account given of the execution of three young men at Edinburgh, who had described in their dying declarations the dangerous steps with which their career of vice and infamy took its commencement. When she returned home, she recovered in a quarter of an hour, was quite amazed at the questions put to her about the Church sermon, and denied that she had been in any such place; but next night, on being taken ill, she mentioned that she had been at Church, repeated the words of the text, and, in Dr. Dyce's hearing, gave an accurate account of the tragical narrative of the three young men, by which her feelings had been so powerfully affected. On this occasion, though in Mrs. L——'s house, she asserted that she was in her mother's."

Drs. Dyce and Dewar do not give any theory to account for these very extraordinary phenomena. They mention that the girl complained of confusion and oppression in her head at the coming on of the fits; and that after the flowing of the menses had been fairly established, the whole symptoms disappeared. We are unable phrenologically to throw more light on the case than these gentlemen have done; and the only conclusion which seems to arise from it is, that, before memory can exist, the organs require to be affected in the same manner, or to be in a state analogous to that in which they were, when the impression was first received. This inference is supported by several other facts. Dr. Abel informed me of an Irish porter to a warehouse, who forgot, when sober, what he had done when drunk; but being drunk, again recollected the transactions of his former state of intoxication. On one occasion, being drunk, he had lost a parcel of some value, and in his sober moments could give no account of it. Next time he was intoxicated, he recollected that he had left the parcel at a certain house, and there being no address on it, it had remained there safely, and was got on his calling for it. The same phenomena present themselves in the state of somnambulism, produced by animal magnetism. In the works on this subject, it is mentioned, and the fact has been confirmed to me by a very intelligent friend, who has observed it in Paris, that a person who is magnetized so as to produce the kind of magnetic sleep termed Somnambulism, acquires, like the girl in Aberdeen, a new consciousness and memory; he does not recollect the transactions of his ordinary state of existence, but acquires the power of speaking and of thinking in his induced state of abstraction from the external world. When this state has subsided, all that passed in it is obliterated from the memory, while the recollection of ordinary events is restored. If the magnetic state is again recalled, memory of the circumstances which formerly happened in that state is restored; and thus the individuals may be said to live in a state of divided consciousness. In this country, the doctrines of animal magnetism are treated with the same contempt which has been poured upon Phrenology. I am wholly unacquainted with their merits; but the circumstance now stated, of alternating memory and forgetfulness, is mentioned in the books on the subject which I have consulted, and has been certified to me as true, by a gentleman whose understanding is too acute to allow me to believe that he was deceived, and whose honor is too high to admit of his deceiving others. These facts cannot be accounted for in a satisfactory way; but by communicating a knowledge of their existence, attention will be drawn to them, and future observations and reflection may ultimately throw light upon the subject.

JUDGMENT, in the metaphysical sense, belongs to the REFLECTING Faculties alone. The Knowing Faculties may be said, in one sense, to judge, as, for example, the faculty of Tune may be agreeably or disagreeably affected, and in this way may judge of sounds: but Judgment, in the proper sense of the word, is a perception of relation, or of fitness, or of the connexion betwixt means and an end, and belongs entirely to the reflecting powers. These faculties, as well as the Knowing Faculties, have Perception, Memory and Imagination. Causality, for example, *perceives* the relation of cause and effect, and also *remembers* or *imagines* that relation, just as Locality perceives, remembers, or imagines the relative position of objects. Hence Judgment is the decision of the Reflecting Faculties upon the feelings furnished by the Propensities and Sentiments, and upon the ideas furnished by the Knowing Faculties. This I conceive to be the strictly phrenological analysis of Judgment; but this term, in the popular sense, has a more extensive signification. It is common to observe of an individual, that he possesses an acute or even profound intellect, but that he is destitute of judgment. This apparent paradox may be explained in two ways: *First*, By "an acute or profound intellect," is frequently meant a great but limited talent, which we would refer to some of the Knowing Faculties. Thus, a person may be distinguished for ability in mathematics or painting, and not be eminent for reflection or judgment, in the stricter sense. There is, however, a second explanation, which is preferable. To judge of the line of conduct proper to be followed in the affairs of life, it is necessary to *feel* correctly, as well as to reason deeply; or rather, it is *more* necessary to feel rightly than to reflect. Hence, if an individual possess very powerful reflecting organs, such as Lord Bacon's, and be deficient in Conscientiousness, as his Lordship seems to have been, he is like a fine ship wanting a helm, liable to be carried from her course by every wind and current. The reflecting organs give the power of thinking, but Conscientiousness, and the other sentiments, are necessary to furnish correct feeling, by which practical conduct may be directed. Indeed, Lord Bacon is a striking example, how poor an endowment intellect, even the most transcendent, is, when not accompanied by amiable and upright sentiments. That mind which embraced, in one comprehensive grasp, the whole circle of sciences, and pointed out, with a surprising sagacity, the modes in which they might best be cultivated,—that mind, in short, which anticipated the progress of the human understanding by a century and a half, possessed so little *judgment*, so little of sound and practical sense, as to become the accuser, and even defamer of Essex, his early patron and friend; to pollute the seat of justice by corruption and bribery; and to stoop to the basest flattery of a weak king, all for the gratification of a contemptible ambition. Never was delusion more complete. He fell into an abyss of degradation from which he never ascended; and to this day, the darkness of his moral reputation forms a lamentable contrast to the brilliancy of his intellectual fame. There was here the most evident defect of *judgment;* and with such reflecting powers as he possessed, the seat of his errors could lie only in the sentiments, deficiency in some of which prevented him from *feeling* right, and of course withheld from his understanding the data from which sound conclusions respecting conduct could be drawn.

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found in fair proportion, with an excellent developement of the latter. Conscientiousness, Veneration, Benevolence, Love of Approbation, Adhesiveness, and Cautiousness, were all large; and the sources of his prudence, good sense, and amiable qualities, were at once apparent. To show that Phrenology and the head were not at variance, I inquired into his powers of logical or profound argumentation; when his friend said, that, although he was fond of reading, his acquaintances were surprised that he never learnt the meaning of a great many plain words; and on asking what these were, they turned out to be abstract terms and expressions, referable for their signification to Causality and Comparison. The individual in question not only could not reason consecutively, but in ordinary discourse misapplied, and seemed not to understand, the terms now adverted to. This was exactly what a phrenologist would have predicted.

In describing, therefore, the effect of the Reflecting Faculties in ordinary life, I would say that the propensities and sentiments furnish the desires which prompt to action, and also the feelings which regulate conduct; while reflection, without being able to alter their nature, judges of the motives presented by them to its consideration; taking in an extent of view, greater or less, in proportion to the size of the intellectual organs. For example, if Cautiousness be excessively large, and Hope small, this combination will present dismal forebodings to the mind; and the understanding cannot alter the feelings so as to render cheery and brilliant, scenes which they tinge with melancholy and gloom. If Hope be very large, and Cautiousness very small, then the most delusive anticipations of felicity will be suggested, and the understanding will see objects under this impression. If, again, both Cautiousness and Hope be large, each will furnish its own emotions on the objects of contemplation; and the understanding now having two views, will possess elements for judging, and be able, by comparing, to come to a sound determination between them.

If these principles be correct, they enable us to explain why, among lawyers, a bad pleader sometimes makes a good judge, and *vice versa*. To a pleader, intellect and propensity are more essentially necessary than Conscientiousness; to a judge, on the other hand, great moral organs are indispensable; for without an ample developement of them, his intellect is liable to be led astray by subtleties and false views, and in his decisions the grand element of justice will be wanting. I have noticed, that, where Conscientiousness is large in a lawyer, and he is pleading a bad cause, he betrays instinctively, by his natural manner, his impression that he is in the wrong. Another individual, in whom this organ is deficient, views all cases chiefly as questions of opinion, and contends for victory with that ardent spirit which the former can display only when advocating the cause of truth.

The same principles enable us to judge of the propriety of a very important regulation in one of the institutions of the country, —I mean the requisite of *unanimity* in juries in civil causes. If two individuals were constituted umpires on a claim of damages for defamation, and if one of them possessed from nature an immense Love of Approbation, judging, from his own feelings, he would rather suffer death than live defamed; if the other was extremely deficient by natural constitution in this sentiment, he could pass his days unmoved by the censures or applauses of the world, and the two could not, by any efforts of their understandings, come to view the injury sustained by the plaintiff in the same light, nor agree about the amount of damages which would constitute an equitable compensation for the slander. The one must either surrender his conscience to the other, or allow a third party to decide between them; for real unanimity is excluded by the very constitution of their minds. No exercise of the *understanding* will produce it. Even the intellectual perceptions of jurymen differ. If one is very deficient in the reflecting organs he will forget all inferential evidence and conclusions as fast as they are stated to him, and hence may regard a point as not proved which appears demonstrated to another juror in whom the reflecting organs are large. It is difficult to admire the wisdom of that legislature which is so ignorant of the human mind as to imagine that men can by argument, if they will, arrive at one conclusion in such cases: or which, if it knows that they cannot in nature agree, nevertheless conceives it profound and beneficial to require a verdict in direct opposition to the constitution of the mind; to produce an *appearance* of unanimity, when the *substance* is unattainable. Many voluminous arguments have been brought forward on the opposite sides of this question: but it appears to me, that the mode of judging of it afforded by Phrenology carries us to the ultimate principles at once. If it be naturally in the power of men, by honest efforts, to see questions of conduct, such as occur before Jury Courts, in the same light, then unanimity ought to be required; but if this perfect harmony of sentiment is excluded by nature, it is mere littleness and imbecility, to pretend to produce it by an act of Parliament; accordingly, nature prevails here as in every other case, for all sensible jurors before commencing their deliberations, arrange that the minority shall yield to the majority; and the only effects of the law are to put it in the power of some very obstinate or very wicked individual to concuss his fellow jurors into adoption of his opinion—which, on the ordinary chances, from his standing alone, will be placed at an extreme point in the scale of absurdity—or else to defeat the object of the parties, by depriving them altogether of a verdict.

It has been said, that the requisite of unanimity produces attention in the jury to the case, and discussion of the subject among themselves. This I have no doubt may be true, but even with every degree of attention and discussion, unanimity in general is morally impossible. Obvious questions of evidence or right, in which all men may agree, are not those that come most frequently before courts of justice; but difficult cases, in which the most conscientious and enlightened men may differ in opinion. Out of twelve or fifteen persons there is always a risk that two or more may stand in the antipodes of moral and intellectual constitution to each other. Under the present system such individuals must yield unconvinced. It appears to me, that, by leaving out the extremes, and requiring a majority of three-fourths, or some such proportion, the advantages of discussion would be gained, and the evil of the great body of a jury being concussed into a verdict by one obstinate individual, might be avoided. A proposition to which nine men out of twelve would *voluntarily* assent, would be nearer truth than one modified by mutual concessions to conciliate (*but not to satisfy*) the whole.

Having now discussed the metaphysical faculties of Perception, Conception, Imagination, Memory and Judgment, and shown them to be merely modes of activity of the phrenological faculties, with which the metaphysicians were unacquainted, I proceed to notice several other mental operations and affections, which make a figure in the common systems of mental philosophy, and to refer them also to their principles in this science.

CONSCIOUSNESS means the knowledge which the mind has of its own existence and operations. Dr. Thomas Brown denies that it is a power, or any thing different from sensation, emotion, or thought, existing at any moment in the mind. It gives us no intimation of the existence of the organs, and reveals to us only the operations of our own minds, leaving us entirely in the dark regarding the mental affections of others, where they differ from our own. Hence, by reflecting on consciousness, which the metaphysicians chiefly did, as their means of studying the mind, we can discover nothing concerning the organs by which the faculties act, and run great danger of forming erroneous views of human nature, by supposing mankind in general constituted exactly like ourselves.

Each organ communicates consciousness of the feelings and ideas which it serves to manifest; thus, if the organ of Tune be extremely deficient, the individual will not be able to attain consciousness of melody; a person in whom Conscientiousness is extremely deficient, will not be conscious of the sentiment of justice, nor of its obligations; one in whom Veneration is very feeble, will not be conscious of the emotion of piety, nor of the duties arising from it. If we should place individuals so constituted, in situations requiring vivid consciousness of these emotions, for the direction of their conduct, we shall be disappointed. This shows the great importance of a well constituted brain. On the other hand, when the organs are large and the temperament active, intense consciousness of the corresponding feelings and ideas is experienced; and some persons, mistaking the emotions arising in this manner from Wonder, Veneration, and other faculties, for supernatural communications, fall into fanaticism and superstition.

It has been argued by some skeptics, that the human mind possesses no certain knowledge, because not only the senses and understanding occasionally deceive us, but even Consciousness itself gives false intimations; thus, a man whose leg has been amputated, is sometimes conscious, years after the operation, of a pain in the toe of the lost foot; or a patient suffering under chronic disease of the liver, feels no uneasiness in it, but is conscious of a pain at the top of the right shoulder. The answer to this argument is, that each nerve and faculty has received a definite constitution, in virtue of which it gives certain intimations when affected in a certain manner; thus, when the nerve of the toe is affected, the nerve itself gives consciousness of pain, accompanied with an instinctive reference to its seat. After the leg has been amputated, part of the nerve remains, and when affected in the same manner as while the toe existed, it communicates the impression which belonged to it in its entire state. In this there is no deception, because the nerve which originally intimated pain in the toe, is affected in the same manner as it was when the toe existed. In like manner the liver itself possesses little sensibility, but the phrenic nerve which is ramified on it communicates with the shoulder, and the nerve being highly sensitive, is affected by the state of the liver, and produces pain in the shoulder. The nerve in this case is really affected, and the pain is the correct indication of its state. It is the office of Causality to discover the causes of these affections, Consciousness being limited to the intimation of the sensations themselves. Every derangement of an organ of sensation or perception is accompanied with disorder of Consciousness to a corresponding extent: Thus, in jaundice, the mind has consciousness of all objects being yellow; in cases like that of Miss S. L., detailed on p. 473, there is consciousness of disturbed equilibrium; but Causality refers these perceptions to diseases as their causes. When the derangement embraces the organs of Causality themselves, the power of discriminating the impression to be diseased is lost, and insanity is established.

It would be of much practical utility to teach individuals the dependence of Consciousness on the states of the mental organs; as a means of inducing them, when under morbid excitement, to distrust their own impressions, and seek relief from sensible advisers. In the present system of education, the connexion of the feelings and intellect with material organs, is so totally overlooked, and every emotion and perception is represented as so purely mental, that when these become exalted or disordered, it is extremely difficult to enable the individual to comprehend how they can be delusive, or in any way affected by corporeal conditions; and hence he suffers much uneasiness in secret; avoids recourse to a physician; persists in acting on his morbid impressions, as if they were sound; till at last disease is permanently established, which, under more enlightened guidance, might easily have been averted, or cut short at its commencement.

It is extremely difficult to determine whether the feeling of personal Identity indicated by the pronoun *I* is connected with a particular organ, or the result of the general action of the whole organs. The reader is referred to what is said on this subject on p. 99, 222, and 406.

ATTENTION is not a faculty of the mind, but consists merely in the application of the Knowing or Reflecting Faculties to their objects. Thus the faculty of Tune, excited by melody, *attends* to notes; the faculty of Causality, addressed by a demonstration, *attends* to the steps of the argument; and the other faculties of the intellect, in like manner, attend to their various objects. Concentrativeness gives continuity to the impressions of the faculties, Individuality and Eventuality direct them to their objects, and Firmness maintains them in a state of application, and these greatly aid Attention; but still attention, in itself, is a mere act of the different intellectual faculties, and not the attribute of any particular power, established exclusively for its production.

ASSOCIATION. The metaphysicians have endeavored, by reflecting on their own consciousness, to discover universal laws, by which the succession of ideas in mankind in general is regulated. They imagine our thoughts to follow each other in an established order, and have attempted to find out the causes of it, and the circumstances which determine the order. Success in such an attempt appears to me to be opposed by impossibility, and incompatible with success. Suppose that we wished to ascertain the laws by which the succession of notes emitted by an Æolian harp is regulated, we should first endeavor to discover the causes which produced them. Similar causes, acting in similar circumstances, produce similar effects; but if we vary one circumstance out of a thousand, we cannot calculate on the result. Now, the causes which determine the succession of notes from an Æolian harp are, the structure of the harp; the impetus of the air; the order in which it excites the various strings. Render all these circumstances the same in the case of every harp, and the same succession of notes may be assuredly predicted. But if the air, that emblem of inconstancy, will not blow twice with the same force on the same spot in a month, or will not excite the same strings twice in the same order of succession in a year; and if no two Æolian harps can be made in every particular of string, form, and substance, alike,—who, by observing the notes arising from one harp, will succeed in unfolding the laws by which the succession of notes from Æolian harps in general may be determined, whatever their size, structure, and number of strings, and the circumstances in which they may be placed? This illustration is completely applicable to the case of the human faculties. Ideas are affections of *these*, just as notes are affections of the strings of the harp. Ideas arise from impressions on the various faculties of the mind; and there is as little regularity in the order in which they are received, as in the breathing of the air on the strings. And, lastly, if harps *may* vary in structure, human beings do positively differ in the relative strength of their powers. Hence the same impressions must produce very different effects, or introduce very different ideas into minds so dissimilarly constituted; and how, amid such a countless variety of causes, can similarity of effects be expected?

If we place a number of persons on a hill-top, say Arthur Seat, overlooking a champaign country, and the sea, and bid each declare his thoughts;—we shall find that one, with Ideality predominant, will think of the magnificence of nature, the boundless extent of the ocean, the vastness of the mountains; and on recalling the scene, these ideas and emotions will be associated with it in his mind: another, with great Causality and Constructiveness, and little Ideality, will admire the skill which he sees displayed in farming the fields, and in constructing the houses and the ships: one, with Benevolence large, will think of the happiness enjoyed by the people who inhabit the plain: another, with Acquisitiveness active, will think how the various branches of industry will pay; and one, with a strong Veneration, will probably take occasion to admire the greatness and goodness of God. Now, the metaphysician expects to find out laws, by which, on Arthur Seat being afterwards mentioned, in the presence of these individuals, we may be able to tell the train of thoughts which it will introduce into their several minds; and he hopes to arrive at this result, by studying the train which arises in his own mind, on the hill being referred to as an object of thought. Such an expectation must necessarily be futile. Each of the individuals supposed would, on the mention of the hill, experience a train of ideas corresponding to the first impressions which he received on the top, and nothing can be more dissimilar than these. As well, therefore, to use the words of an ingenious phrenologist, may we expect, by studying the forms and hues of the clouds, which flit along the sky to-day, to be able to discover laws, by which their succession will be regulated to-morrow: as, by reflecting on the ideas which pass in one mind, to discover links of association, by which ideas in the minds of mankind in general will be uniformly connected, and introduced in a determinate succession.

Although, however, it is in vain to expect to find any law or principle regulating the association of one idea with another, the mutual influence of organs by association is determinate. There are also natural associations betwixt certain external objects and the internal faculties: and, lastly, artificial associations may be formed betwixt objects and the feelings of the mind; and the laws which regulate these constitute certain knowledge, and are interesting to be known. Let us, therefore, inquire briefly into these laws of association.

In the *first* place, we are able to perform anew, when we wish to do so, any voluntary motion which we have performed before. This shows that the nerves of motion are so associated or connected with the organs of the mind, as to be at the command of the will.

In the *second* place, by conceiving an object in distress, we can raise the emotion of pity in the mind; by conceiving a splendid scene in nature, we can excite the emotion of sublimity and beauty produced by Ideality; by reading a terrific story, we are able to experience the chilling emotions of fear creeping along the nerves. These facts point out a close connexion betwixt the organs of Intellect and the organs of the different propensities and sentiments. Indeed, in the dissection of the brain, the closest relation betwixt its different parts is perceived, combined with arrangements for separate functions; but this is connexion rather than association.

Farther, Mr. Scott, in his "Observations on Phrenology," has pointed out, in a very ingenious manner, the beautiful association, in point of arrangement, of the organs, for the purposes of mutual assistance in their action. "When I began," says he, "to consider the schedule or map presented to us by Drs. Gall and Spurzheim, I could at first see none of this beauty in it. In looking over their list of powers, I could observe no order or connexion between them. The whole presented to me a rude appearance, quite different, as I then thought, from what is commonly found in nature. After a more attentive consideration, however, light began to dawn upon me, and, beginning to consider the faculties in a certain way, and to group them after a certain order, the whole gradually formed themselves before me into a system of surprising symmetry; and, like the disjointed parts of an anamorphosis, when seen from the proper point of view, collecting themselves into one elegant design, delighted me with the appearance of that very order and beauty which I would beforehand have expected to find in them. In a scheme such as this, where we find powers which are analogous, which resemble one another in their nature and uses, or which act upon and co-operate with one another, or mutually aid and assist, or control and balance, each other, we should naturally expect the organs of these powers to be situated near to one another, and in such a way as either to adjoin, or at least to admit of an easy communication. Accordingly we find this to be the case." Immediately above Amativeness, for example, we see in the bust Philoprogenitiveness, giving the love of offspring, and Adhesiveness, producing the propensity to attachment, the three together constituting the group of the domestic feelings. Next to them we find Combativeness, as if there were no dearer objects than these for which the various powers could be exerted. Adjoining to Combativeness is Destructiveness; the former giving courage to meet the enemy, the latter putting peril in the onset, and threatening him with destruction.

Amid the difficulties of life, it is necessary to use not only caution but also so much of secrecy regarding our own purposes, as not to carry " our hearts on our sleeves for daws to peck at," and we find Secretiveness surmounted by and in juxtaposition with Cautiousness.

Turning to the region of the Sentiments, we find Veneration, which produces the tendency to religion, surrounded by Benevolence, Hope, Perseverance, and Justice; or the fountains of the whole charities and duties of life associated in a group, and beautifully arranged for reciprocal aid and combined action.

We find Ideality approaching these, but a little below them, yet so near to and above Constructiveness as to elevate its designs. Ideality also adjoins to Wit and Tune, as if to give soul and fancy to poetry.

In like manner we find the organs which simply perceive, or the Knowing Organs, arranged together, along the superciliary ridge, and those of Reflection occupying the summit of the forehead, like the powers which govern and direct the whole.

Mr. Scott, after exhibiting these views, observes, that such an arrangement is more beautiful, systematic, and appropriate, than human ingenuity could have devised; and taken in connexion with the fact, that the organs were discovered at different times, and in separate situations, and that Order and Beauty appeared only after the ultimate filling up of the greater part of the brain had taken place, it affords a strong argument *à priori*, that the organs were *discovered*, not *invented*, and that the system is the work of *nature*, and not of Drs. Gall and Spurzheim.

In treating of the organ of Language, I have explained the association of ideas with signs. I may here add, that the doctrines of Mnemonics are founded on this power of the mind to associate ideas with arbitrary signs. In devising means for aiding the memory, it ought constantly to be kept in view, that every individual will associate, with greatest ease, Ideas with such external objects as he has the greatest natural facility in perceiving. For example, sometimes space is used as the medium of recalling the ideas wished to be remembered. The room is divided, in imagination, into compartments, and the first topic of the discourse is placed in the first compartment, the second into the second, and so on; so that, by going over the spaces, the different heads of the discourse with which they were associated will be recalled. It is obvious, however, that it is only if Locality be large that such a device can be serviceable; because if this faculty be weak, it will be as difficult to imagine and recollect the compartments, as the discourse itself. If, in like manner, numbers are resorted to as the connecting medium, so that on hearing one idea, which we wish to recollect, we shall associate it with the number one, and on hearing another which we wish to recollect, we shall associate it with the number two, it is obvious, that, unless the faculty of number be powerful, this will be a more difficult process than that of simple recollection. Hence, different modes of recollection should be used for different individuals. He who has Number most powerful, will associate words most easily with numbers; he who has Form most energetic, will associate words most easily with figures; he who has Locality most vigorous, will associate words most easily with space; and he who has Tune most powerful, will associate words most easily with musical notes. Hence, also, the influence of associations on our judgment is easily accounted for. He in whom Veneration is powerful, and to whom the image of a saint has been from infancy presented as an object to be venerated, experiences an instantaneous and involuntary emotion of Veneration, every time the image is presented to him, or a conception of it formed; because it is now the sign which excites in him that emotion, altogether independently of Reflecting Faculties. Until we can break this association, and prevent the conception of the image from operating as a sign to excite the faculty of Veneration, we shall never succeed in bringing his understanding to examine the real attributes of the object itself, and to perceive its want of every quality that ought justly to be venerated. In the same way, when a person is in love, the perception or conception of the object beloved stirs up the faculties which feel into such vivid emotion; that emotion is so delightful, and the Reflecting Faculties have so little Consciousness, that the real source of the fascination is in the faculties which feel, that it is impossible to make the lover see the object with the eyes of a disinterested spectator. If we could once break the association betwixt the object and the faculties which feel, the Reflecting Faculties would then perform their functions faithfully, and the object would be seen in its true colors. But, while we are unable to break this link, and to prevent this fascination, we may reason *ad sempiternum*, and our conclusions will never appear to be sound, because the premises, that is, the appearance of the object, will never be the same to the party most interested in the argument and to us.

Thus, the associations which mislead the judgment, and perpetuate prejudices, are those of words or things with *feelings* or *sentiments*, and not associations of conceptions with conceptions, or merely of ideas with ideas. The whole classes of ideas formed by the Knowing and Reflecting Faculties may be associated *ad infinitum*, if these ideas do not become linked with the propensities and sentiments, and no moral prejudices will arise.

In studying the laws of association, therefore, we must go beyond the ideas themselves, and consider the faculties which form them. If the faculties be kept in view, the whole phenomena of association will appear lucid and intelligible; and we shall find nature confirming our principles, because they will be founded on her laws. We shall see the individual who has the ***Reflecting*** faculties most powerful, associating ideas according to the relation of necessary consequence; we shall perceive him who has the ***Knowing*** Faculties most powerful, associating ideas according to the relations of time, place, and circumstances; and, very often, although not always, we shall find each individual associating with most facility, and recollecting most perfectly those ideas, which minister to the gratification of his most powerful propensities or sentiments. See examples of association of colors on page 378 of this work. If we seek only for relations among individual ideas themselves, or for general laws, according to which ideas are associated in all individuals, our researches will never be crowned with success. No stronger proof of this fact could be found, than the circumstance, that, although different individuals will use the same process of reasoning to produce the same conviction, yet no two will state their arguments in the same words, or make use of the same illustrations. The general identity of the reasoning process depends on the identity of the constitution of the faculties which reason; but difference in words and illustration arises from the particular combination of organs belonging to the individual, and from the circumstances in which he has been placed, which afford his faculties the particular materials which he uses.

In all ages, unprincipled individuals have availed themselves of the law of association before explained, to enslave the minds of their fellow men. By means of early impressions, they have connected certain practices and notions favorable to their own power, with the sentiments of Cautiousness, Conscientiousness and Veneration in the people, and thereby caused them to fear objects existing only in imagination, and to perform actions inconsistent with the welfare of society. Phrenology will tend to bring this species of tyranny to an end. Each faculty has a sphere of legitimate action, established by the Creator, which is in harmony lymphatic temperament, or great deficiency of brain; by persons ignorant of human nature, this state is sometimes mistaken for patience; just as the extinction of thought and feeling in a nation, is mistaken by a despot for the repose of contentment.

An individual possessing an active temperament, and Self-Esteem, Combativeness and Destructiveness, larger than Benevolence, Veneration, and Conscientiousness, will be impatient of opposition and contradiction; one in whom Tune, Time, and Ideality are large, will be impatient of bad music; one in whom Benevolence, Conscientiousness, and Causality are large, will be impatient of hypocritical and selfish conduct. If the nervous and sanguine temperaments predominate, the organs are very active, and the individual will be impatient of all slow prosing movements, whether in speech or actions.

JOY and GRIEF. Mr. Hume enters into a very acute and refined analysis, to show that grief and joy are merely *mixtures* of *hope* and *fear*. After treating of several passions, he continues thus: "None of these passions seem to contain any thing curious or remarkable, except *hope* and *fear*, which, being derived from the probability of any good or evil, are mixed passions, that merit our attention."

"Probability," says he, "arises from an opposition of contrary chances or causes, by which the mind is not allowed to fix on either side; but is incessantly tossed from one to another, and is determined one moment to consider an object as existent, and another moment as the contrary."

"Suppose, then, that the object concerning which we are doubtful, produces either desire or aversion, it is evident that, according as the mind turns itself to one side or the other, it must feel a momentary impression of joy or sorrow."

"The passions of fear and hope may arise, when the chances are equal on both sides, and no superiority can be discovered in one above the other. Nay, in this situation, the passions are rather the strongest, as the mind has then the least foundation to rest upon, and is tossed with the greatest uncertainty. Throw in a superior degree of probability to the side of grief, you immediately see that passion diffuse itself over the composition, and tincture it with fear. Increase the probability, and by that means the grief; the fear prevails still more, till at last it runs insensibly, as the joy continually diminishes, into pure grief. After you have brought it to this situation, diminish the grief by a contrary operation to that which increased it, to wit, by diminishing the probability on the melancholy side, and you will see the passion clear every moment, till it changes insensibly into hope; which again runs, by slow degrees, into joy, as you increase that part of the composition by the increase of the probability." Mr. Hume concludes by this question: "Are not these as plain proofs that the passions of Fear and Hope are mixtures of Grief and Joy, as in optics it is a proof that a colored ray of the sun, passing through a prism, is a composition of two others, when, as you diminish or increase the quantity of either, you find it prevail proportionally, more or less, in the composition?"*

These views are exceedingly ingenious, and, to a certain extent, sound; but Phrenology presents us with still more distinct and accurate elucidations of the nature of grief and joy. Each propensity desires to attain its object, and the attainment affords to the mind a feeling of gratification. Acquisitiveness desires wealth; Love of Approbation longs for praise and distinction, and Self-Esteem pants for authority. The *obtaining of* wealth gratifies Acquisitiveness; this is attended with pleasing emotions, and these emotions constitute Joy. The *losing of wealth* robs Acquisitiveness of its object; this, again, is accompanied with painful sensations, and these are grief. The same remarks may be applied to Love of Approbation, Self-Esteem, or Philoprogenitiveness. When a lovely child is born, the delight experienced by the parents will be in proportion to the ardor of their desire for offspring; or, in other words, their *joy* will be great in proportion to the gratification of their Philoprogenitiveness. If they lose the child, their *grief* will be severe in proportion to the intensity of this feeling, lacerated by the removal of its object. In all these instances we find *joy* and *grief* existing without involving either *hope* or *fear*.

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* Hume's Dissertation on the Passions, sect. 1.

Let us now advert to Mr. Hume's analysis. Cautiousness and Hope are both primitive sentiments, the former producing fear, and the latter an emotion *sui generis*, attended with delight. Both have relation to *future* objects, and in this respect differ from the other faculties, the gratification of which relates to *present* time ; but this circumstance does not change the laws of their operation. If the prospect of future evil be presented to the mind, this excites Cautiousness, and fear is produced ; this emotion is painful, but fear is not grief. It is to be observed, however, that there must be the *fear* of *something* ; and as *evil* is a disagreeable affection of some primitive faculty, of Acquisitiveness or Philoprogenitiveness for example, Cautiousness is never affected *alone*, but always in conjunction with some other power. Thus, if a son is sick, Cautiousness fears that he will die, and Philoprogenitiveness is painfully affected by the prospect of that event, which painful emotion is grief. Here fear and grief are conjoined ; but they arise from different sources, and although the *fear* cannot exist without the *grief*, in some degree or other, yet the *grief* might exist without the *fear* ; and would do so, if the child were carried in a corpse without a moment's warning. In the same way, if a person hopes, he must *hope for something*. If for gaining £1000, the prospect gratifies Acquisitiveness, and this is joy. Here the active Hope and gratified Acquisitiveness mingle in producing Joy, but still their sources are separate ; and if the £1000 were realized, Joy would exist without the Hope, although Hope can scarcely be active without Joy. The principles here unfolded will be found to elucidate every instance of the operation of Hope and Fear, Joy and Grief, which can be supposed, and this is a strong proof that we have found the truth. They explain beautifully, for instance, how, with many individuals, the *anticipation* of good is more delightful than the enjoyment of it. If *Acquisitiveness* and *Hope* be both strong, the *prospect* of gain excites and gratifies *both faculties at once* ; whereas, the *actual attainment* pleases *only Acquisitiveness*, and excludes Hope. But Hope being one of the higher sentiments, and Acquisitiveness only a lower propensity, the delights attending the activity of the former are greatly more elevated and excellent than those accompanying the latter; and it is easy to conceive that the *exercise of both* must be *more delightful* than that of either separately, and that when Hope is dropped from the combination, the better half of the pleasure is gone.

The converse of this holds equally good. The prospect of distant evil is more painful than the experience of it when actually present. While the loss of a child is contemplated at a distance, Cautiousness adds its melancholy and heart-sinking fears to the pains of a wounded Philoprogenitiveness; but when the event happens, the influence of Cautiousness is withdrawn, Philoprogenitiveness alone suffers, and the actual distress is less grievous than the anticipation of it.

Great wisdom and benevolence on the part of the Creator are displayed in this constitution of our minds; for we are thereby prompted, with double ardor, to avoid evil, while yet at a distance and subject to control from our efforts.

SYMPATHY[*] may be defined to be a fellow feeling, in one person, with emotions experienced by another. By attending to the laws which regulate the activity of the mental faculties, we shall discover the true nature of this affection, and the circumstances most favorable to its occurrence.

Every internal faculty, like each of the external senses, is most powerfully and most agreeably roused to activity by the direct presentment of its own objects; Cautiousness, for instance, by the aspect of danger; Benevolence, by that of suffering; and so on. Hence, if two individuals of nearly similar constitutions of mind be exposed to the operation of the same external causes, the same faculties being called into activity in both, will give rise to similar emotions; and they may then be said to *sympathize* with each other. This is one kind of sympathy, but it is not the state of mind to which that term is most correctly applied.

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[*] I am indebted to the kindness of Dr. A. Combe for the following observations on Sympathy.

The next source of stimulus to the faculties, is that afforded by Natural Language. When any faculty is predominantly active, it gives a peculiar expression to the features, and certain determinate attitudes to the body, the import of which is instinctively understood by all who possess the same faculty even in a moderate degree. Thus, Self-Esteem being predominantly active, communicates to the body a cold, formal, erect, and haughty air. This air is recognised instinctively by the spectator as indicating excessive pride in the individual who exhibits it; and it is called the natural language of Self-Esteem.* Now, by a law of our constitution, the natural language of any active faculty invariably excites the same faculty to activity, and, consequently, gives rise to the same emotions, in the minds of those who witness it. The forbidding strut of great Self-Esteem, for instance, in a person whom we never saw before, addresses itself directly to our Self-Esteem; we instinctively *draw up*, and feel moved to support our own consequence by a coldness proportioned to his. In like manner, when we meet for the first time with a person whose countenance and gestures express kindness, candor, and open-hearted friendship, which are the natural language of active Benevolence, Conscientiousness, and Adhesiveness, the same emotions are excited in ourselves, and we instinctively return his advances with a kindness corresponding to his own. Or, let us imagine that we hurry to meet a friend, whom we expect to find all happiness and gaiety, and that, instead of this, seriousness, anxiety, and grief, are depicted on his countenance, and indicated by his gestures, these being the natural language of Cautiousness and other faculties painfully affected, will call up a corresponding affection of the same faculties in our minds, and, without knowing what has distressed him, our features and attitudes will instantly assume an expression consonant with his own. It is to this involuntary and almost unconscious communication of feelings and emotions from the mind of one individual to that of another, through the medium of natural language, that the term Sympathy is most properly applied.

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* See p. 107, for observations on Natural Language.

An excellent illustration of this kind of sympathy is to be found in the effects of a panic, or excessively excited Cautiousness, in one individual, exciting the same feeling in all who behold it. The very sight of a panic-stricken person, when we do not know the cause which has given rise to the alarm, excites a general uneasiness about our own safety; and if a great number of persons together, and at the same instant, perceive the terrified expression, it instantly rouses the faculty of Cautiousness to its highest pitch of activity in all of them, and produces the most intense feelings of dread and alarm. Such are the causes and origin of panics in battles and in mobs; and hence the electric rapidity with which passions of every kind pervade and agitate the minds of assembled multitudes.

Another and very familiar example of this kind of sympathy may be seen in a crowded city. Let any one in passing along London Bridge, for instance, stop short, and turn up his face, with his mouth half open, as if stupified with wonder and amazement, and immediately the same expression, being the natural language of Individuality and Wonder, will be transferred to the countenances of nine-tenths of the passengers, not one of whom, of course, will be able to assign any *direct* cause for the emotion with which his mind will be filled. As the propensities and sentiments employ the intellect to minister to their gratification, if the wag happens to say that it is something vastly surprising in the heavens which attracts his gaze, the majority of the *curious* in wonders will soon, by a stretch of intellectual conception, come to perceive *something* where nothing actually exists.

True sympathy, then, arises from the natural language of any active feeling in one individual exciting the same feeling in another, "*antecedent to any knowledge of what excited it in the person principally concerned*;" and, therefore, as the stimulus of natural language is secondary or inferior in power to that derived from the direct presentment of the objects of any faculty, it is easy to explain why the person who feels sympathetically, feels less deeply than the person with whom he sympathizes. The same principle explains, also, why all men do not sympathize in the same degree, and why, in some cases, the spectator does not sympathize at all. If the objects presented are such as to afford a *direct* stimulus to a different faculty in us, from that exhibited in activity by another, it follows, that, in virtue of the stronger influence of the direct excitement, the particular faculty which it addresses will be roused into higher activity than the one which has only the less powerful stimulus of natural language, and thus a totally dissimilar emotion will be experienced. For example, let us suppose, that a man with a good endowment of Combativeness is attacked on the highway. The menacing looks and gestures (the natural language of Combativeness) displayed by the aggressor, instantly rouse the same faculty into energetic action in the defender, and force is repelled by force. But, suppose that the attack is made upon a woman or an individual, in whom Combativeness is only moderate, and in whom Cautiousness predominates, the attack then becomes a *direct* stimulus to Cautiousness, which, being excited, produces *fear;* and the direct stimulus of Cautiousness overpowering the indirect stimulus of Combativeness, submission or flight is resorted to, rather than defence.

Dr. Adam Smith [*] supposes, that there are emotions with which we have no sympathy. "The furious behavior of an angry man," says he, "is more likely to exasperate us against himself than against his enemies." According to the theory, however, of sympathy, that it excites in us the same emotion which others feel, this opinion seems to be untenable. If Combativeness in one excites, by sympathy, Combativeness in another, which I hold it to do, it follows, that, as the function of Combativeness is to attack or to repel attack, when that faculty is roused, it must, from its very constitution, exert itself against something or somebody. If we know the cause of the anger and approve of it, and direct our Combativeness against the angry man's enemies, this is clearly sympathy in every sense of the term. But if we disapprove of the cause, then he himself becomes the object of our combativeness; and in popular language it may be said, that, in this case, we do not sympathize with him; but it must be observed, 1*st*, That the activity of Combativeness in him is the cause of rousing the same faculty in us; and, 2*dly*, That the reason of its being directed against himself is to be found in his having outraged, by his conduct, our moral sentiments, and presented us with an object (an unreasonably furious man) which stimulates them *directly;* and they being excited, determine the direction which Combativeness shall take. The same reasoning applies to the sympathy of Self-Esteem and of other faculties, hitherto supposed not to sympathize.

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[*] Theory of Moral Sentiments, p. 32.

The proof that we do sympathize with anger, when properly directed, as well as with grief or pity, is to be found in the cordiality with which we approve of and indeed encourage a just degree of it. Fortunately, in the case of Combativeness, as well as of all the other propensities, our sympathy, beyond certain limits, is soon arrested by the direct stimulus which the moral sentiments receive from the conduct of the angry person, and by the deep sense of their inherent supremacy which is then felt. In consequence we sympathize with or approve of the actions produced by the lower faculties of others, only when these are guided by the faculties proper to man. For example, we never sympathize with Combativeness when indulged for the mere pleasure of fighting; or of Destructiveness, when gratified for the mere delight of being ferocious; or of Acquisitiveness, when directed to the sole purpose of accumulating wealth. But we sympathize with the action of all these faculties, when directed by justice and understanding. Such, however, is the beautiful constitution of our nature, that we sympathize with the action of the sentiments proper to man, even when unmingled with any other motive; for example, we sympathize with Benevolence, from the mere glow of charity; with Veneration, from the mere inward feeling of devotion; with Justice, from the pure dictates of Conscientiousness, and actions done, apparently from the impulses of these faculties, lose their character of purity and excellence in our estimation, in exact proportion to the alloy of the inferior faculties which we perceive to be mingled with them. Kindness, in which we perceive interest, is always less valued than when pure and unadulterated. Activity, in the service of the public, loses its merits in our eyes, in exact proportion as we perceive the motive to be the Love of Approbation, unmingled with Conscientiousness and true Benevolence. These facts prove the accuracy of the phrenological doctrine, that the higher faculties are made to govern the lower; and it proves the curious circumstance, that man is conscious of possessing feelings, necessary, no doubt, in themselves, but of the gratification of which, when undirected by the superior powers, he himself disapproves. Even the higher sentiments, however, must, to be approved of, act conformably to the understanding; and excess of veneration, of benevolence, or of scrupulosity, is always regarded as weakness, just as excess of any lower propensity is regarded as vice.

The doctrine of sympathy leads to valuable practical consequences. The natural language of any faculty is intelligible to and excites the same faculty in another, and this simple principle explains why harshness is much less powerful than mildness in commanding the services of others. Harshness is the natural language of active Self-Esteem, Combativeness, and Firmness: in virtue of the above rule, it naturally excites the same faculties in those against whom it is directed, and an instinctive tendency to resistance or disobedience is the result. Among the uneducated classes this process is exhibited every day. A parent, in a harsh and angry tone, commands a child to do, or to abstain from doing, something; the child instinctively resists; and loud threatenings and at last violence ensue. These last are *direct* stimulants to Cautiousness; and overpower the faculties excited, only by the indirect stimulus of harshness, and obedience at last takes place. This is the uniform effect of the imperious commands: obedience never ensues till consequences alarming to Cautiousness are perceived, and then it is attended with a grudge. Veneration, Conscientiousness, Love of Approbation, and Benevolence, on the other hand, are the faculties which lead to willing submission and obedience, and to which, therefore, we ought to address ourselves.

If we stimulate them, compliance will be agreeable to the individual, and doubly beneficial to the person who commands.

This principle explains also the force of example in training to good conduct, and affords instructive rules for the proper education of the propensities and sentiments. Where parents and seniors act habitually under the influence of the higher sentiments, the same sentiments in children not only receive a *direct* cultivation, but they are sustained in enduring vivacity by the natural expression of their activity thus exhibited. Children having the organs of the sentiments early developed, can judge of what is right and wrong long before they can reason, and hence the importance of always manifesting before them the supremacy of the sentiments. Much of the effect of example upon future character has been ascribed to Imitation; but although this has an influence, I am persuaded that it is small compared with that of Sympathy as now unfolded.

There is a state of mind which has been confounded with Sympathy, but which arises from the direct excitement of the faculties, by their own objects. When we see a stroke aimed and ready to fall upon the leg or arm of another person, we naturally shrink and draw back our own leg or arm, and when it does fall, we in some measure feel it, and are hurt by it as well as the sufferer. Dr. Adam Smith proceeds to explain this by saying, that our fellow feeling here arises from our changing places in fancy with the sufferer. Thus, if our brother is upon the rack, says he, "By the imagination we place ourselves in his situation, we conceive ourselves enduring all the same torments; we enter as it were into his body, and become in some measure the same person with him, and thence form some idea of his sensations, and even feel something, which, though weaker in degree, is not altogether unlike them. His agonies thus brought home to ourselves, when we have thus adopted, and made them our own, begin at last to affect us, and we then tremble and shudder at the thought of what he feels."*

This theory, however, appears to be incorrect, for we often feel intensely for another's misery, without, even in idea, changing places with him. In beholding suffering, we feel deep commiseration with its object, simply because the faculty of Benevolence, the function of which is to manifest this emotion, is a primitive mental power, having the same relation to external misery or pain, as light has to the eye ; and as such it is as instantly and irresistibly roused by presentment of a suffering object, as the eye is by the admission of light, or the ear by the percussion of sounds. In witnessing another's misery, we, in virtue of this constitution of mind, first feel the emotion of pity, and, in proportion to its strength, fancy to ourselves the pain which he endures: But the pity always precedes, and the effort to conceive the pain is the *effect*, and not the cause of the pity. Hence those who are remarkable for a moderate endowment of Benevolence, although possessing superior intellectual or *conceiving* powers, never even try to fancy themselves placed in the situation of the sufferer, because they feel no motive impelling them to the attempt. The benevolent idiot, on the other hand, with scarcely any power of conception, feels the most poignant distress.

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* Theory of Moral Sentiments, p. 30.

The same principle explains our shrinking from a blow impending over another. The feeling then experienced is a compound of Fear and Pity, Cautiousness and Benevolence. Fear sees the danger, and Pity looks to the consequent pain. Danger is the direct stimulant of Cautiousness, and suffering that of Benevolence; and, therefore, when these objects are presented to the mind, we can no more help feeling the corresponding emotions, than we can help seeing or hearing. The direct end or function of Cautiousness is the care and preservation of *self;* therefore, when it is excited by the aspect of danger, we look exclusively to *self*, and necessarily draw in our own leg or arm as parts of *ourselves;* but this results directly from the constitution of the faculty, and not from putting ourselves in the place of another. The direct end or function of Benevolence, again, is the good and happiness of *others*, and therefore, when it is excited by the misery of another, it necessarily, from its very constitution, feels for *them*, and not for us.

An active temperament greatly conduces to sympathy, by producing vivacity in all the cerebral functions, but this does not supersede the laws of sympathy before explained.

HABIT. Next to Association, Habit makes the most conspicuous figure in the philosophy of Mr. Stewart. He refers the incapacity of some individuals to discriminate colors to habits of inattention. The powers, also, of wit, fancy, and invention in the arts and sciences, he informs us, are not the original gifts of nature, "but the result of acquired habits."* "The power of taste, and a genius for poetry, painting, music and mathematics," he states, "are gradually formed by particular *habits* of study or of business." And not only does habit execute these magnificent functions in the system of Mr. Stewart, but, in the estimation of individuals in private life, it appears to be viewed as almost omnipotent. On reading to a friend the account of the boy Gibson's early atrocities, he attributed them all to ***bad habits*** formed in the Charity Work-house of Glasgow; on exhibiting an individual whose mental character was directly opposite, he attributed the difference to ***good habits***, formed under the tuition of his parents. Thus, there are no talents so transcendent, and no dispositions so excellent or so depraved, but habit is supposed by many, at once, to account for them in such a manner, as to supersede the necessity of all further investigation. What, then, ***is*** HABIT, and what place does it hold in the Phrenological System?

Every voluntary action is a manifestation of some one or more faculties of the mind. "Habit" is defined to be "a power in a man of doing any thing acquired by frequent doing it." Now, before it can be done at all, the faculty on which it depends must be possessed; and the stronger the faculty, the greater will be the facility with which the individual will do the thing at first, and with which he will learn to repeat it. George Bidder, for example, the celebrated mental calculator, has acquired the habit of solving, in an incredibly short time, the most extensive and intricate arithmetical problems, without the aid of notation. Before he could begin to do such a thing, he required to possess the organ of Number; possessing it largely, he made great and rapid acquisitions of skill; and at seven years of age established the ***habit*** which struck us with so much surprise. Other individuals are to be found endowed with a small organ of Number, who, although forced by circumstances to practice the use of figures, never succeed in acquiring a habit of performing even the simplest arithmetical questions with facility and success. This illustration may be applied to painting, poetry, music and mathematics. Before the habit of practising these branches of art and science can be acquired, the organs on which they depend must be largely possessed; and being so, the habits result spontaneously from exercising the powers. If a boy at school acquire a habit of quarrelling and fighting, it is obvious that as these acts are manifestations of Combativeness, Destructiveness, and Self-Esteem, he will the more readily acquire the habit the larger these organs are, and the less controlled by others. If these organs are small, or if the higher organs decidedly predominate, the boy will be naturally indisposed to quarrelling, and will acquire the habit of it with great difficulty, wherever he may be placed. He may repel unjust aggressions made upon him, but he will not be the promoter of mischief, nor leader in the broils of his companions.

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* Elements, vol. i. chap. v. p. 1. sect. 4.

Exercise causes the *organs* to act with greater facility, and it is in this way that the *real* effects of habit on the mind, which are important, may be accounted for; but still the organ must possess considerable natural power and activity, to render it susceptible of the exercise by which habit is formed. The practice of debate by advocates at the bar, gives them great facility in delivering *extempore* harangues, compared with that enjoyed by persons whose avocations never lead them to make speeches; and this facility may be said to be acquired by the habit of speaking; but it will always bear a proportion to the original endowment of the faculties, and we shall find, that, while habit gives to one individual great fluency and copiousness of diction, it often leaves another in much poverty and embarrassment of utterance. The powers of both will be greatly superior to what they would have been without the practice of speaking; but disparity in eloquence will continue to characterize them, owing to differences in their original constitution.

The metaphysicians, as we have seen, attribute many important mental phenomena to the effects of habit, and yet they altogether neglect the influence of organization on the mind: According to our views, it is the organ which acquires activity and superior facility in performing its functions, by being properly exercised, just as the fingers of the musician acquire rapidity and facility of motion by the practice of playing; and hence the effects of habit in giving readiness and ease are accounted for, in a manner that is at least intelligible and supported by analogy. The metaphysicians, on the other hand, must imagine that it is the immaterial principle itself which improves by exercise, and gains strength by habit,—a notion which is altogether inconceivable, and in opposition to the attributes of a purely spiritual Being. The doctrine of a plurality of organs also, explains why, by practising music, we do not acquire the habit of speaking or writing with facility, or why, by studying mathematics, we do not acquire the habit of reasoning deeply in moral or political science. It teaches that the organ of Tune is distinct from that of Language; that the organs of Size, Order, Locality, Individuality, and Comparison, on which mathematical talent depends, are different from the organ of Causality, by which general reasoning is performed; and that it is quite possible to exercise one organ, and leave another in inactivity. Those physiologists, however, who hold the brain to be a single organ, and every part of it to be employed in every act of the mind, require to explain how it happens, that exercising it in one way does not improve it in all; or, in short, (to use an illustration applied by Dr. Johnson to genius,) to inform us why the man who can walk east is unable to walk west: If the organs by means of which he walks east be *different* from those by which ne walks west, no difficulty will occur; but if they be *the same*, the question certainly will require some portion of ingenuity on the part of the disciples of the old school for its satisfactory solution.

TASTE. Mr. Stewart speaks of Taste as a power or faculty, and, as already mentioned, supposes it to be acquired by habit. I am not aware that any other metaphysician coincides with him in these views; but a great deal has been written upon the subject, and no satisfactory theory of it yet exists. I shall point out the manner in which it might be treated phrenologically, but the subject is too extensive to allow me to enter into it in detail.

In the *first* place, every act of the mind must be a manifestation of some faculty or other; and every act must be characterized either by good or bad taste, or be wholly indifferent in this respect. Let us inquire into the origin of bad taste, and this will lead us to distinguish its opposite, or correct taste. Bad taste, then, appears to arise from an excessive or improper manifestation of any of the faculties. Lord Byron is guilty of very bad taste in some passages of *Don Juan*, in which he exhibits the passion of love in all the grossness of an animal feeling: this arises from an excessive manifestation of Amativeness, not purified and dignified by the moral sentiments and reflection. In the same work, there is a scene in a boat, in which *Don Juan* and his companions are made to devour his tutor. To a being under the sole dominion of Destructiveness, such a representation may perhaps be gratifying; but unless this propensity be very powerful, it will be impossible for any mind deliberately to invent and enjoy such a picture of human misery. No thoughtlessness, levity, freak of fancy, or other folly, could produce it, without a predominant Destructiveness. This great defect of taste, therefore, may be ascribed to an excessive manifestation of this faculty, unrelieved by Benevolence, or other higher feelings. Moore, also, in his earlier verses, was guilty of sins against taste, from excessive manifestations of the amative propensity; but this error he has greatly corrected in his later productions.

Faults in taste, however, arise not only from unbecoming manifestations of the lower propensities, but also from an inordinate expression of the sentiments and intellectual faculties. In *Peter Bell* and *Christabell*, and in the productions of the Lake School of Poetry in general, much bad taste springs from mawkish and infantine manifestations of Benevolence, Philoprogenitiveness and Adhesiveness. Even Ideality itself may be abused. It is undoubtedly the fountain of beauty, but in excess it degenerates into bombast, rant and exaggeration; or that species of composition which a contemporary critic has appropriately designated by the epithet of "drunken sublimity." Wordsworth affords examples of errors in taste, arising from an abuse of Causality; he introduces abstruse and unintelligible metaphysical disquisitions into his poetry, and mistifies it, in place of rendering it profound.

In like manner, the expression of any sentiment or propensity in an undue degree in conversation or conduct, is essentially characteristic of bad taste. An excess of vanity, and the tendency to engross conversation, is one form of it which occurs in society, and arises from over active Love of Approbation and Self-Esteem. The tendency to wrangle, dispute and contradict, is another fault which springs from an excessive activity of Combativeness. The disposition to flatter, and utter a profusion of agreeable things to persons whom we do not esteem, but wish to please, is also characterized by bad taste, and arises from an improper manifestation of Secretiveness and Love of Approbation.

The question naturally occurs, What is the distinction betwixt bad taste and bad morality? I would answer, that bad morality always implies bad taste, for it springs from an improper manifestation of some lower feeling, to the outrage of the sentiments of Justice, Benevolence and Veneration. Bad taste, however, may occur without moral turpitude, and this arises from an undue activity of any of the faculties, without offence against justice. The effeminacies of *Peter Bell*, for example, stand low enough in the scale of taste; but as the greatest tenderness for asses does not necessarily imply any breach of justice to other beings, the taste only is bad, and not the morality. In like manner, when an individual, under the influence of an excessive Self-Esteem and Love of Approbation, constitutes himself the bore of a party, as his offence does not amount to an attack upon such rights as we guard by the sentiment of justice, we set him down as ill-bred, but not as immoral.

Chesterfield, and some dictators in manners, deliberately recommend slight offences against candor, not only as not liable to the imputation of bad taste, but as essential to good taste. Thus, Chesterfield admits a great deal of deceitful compliance into his characteristics of a gentleman; but, with great deference to his Lordship's authority, I cannot subscribe to the doctrine that bad morality and good taste are in any degree compatible in the same action. An individual may act very improperly in many parts of his conduct, and show considerable refinement in other instances; and this is easily understood; for the higher sentiments may co-exist with great animal propensities, and one occasion may call forth the former, and another excite only the latter, and the conduct may thus assume different aspects at different times; but the question is, Whether the *same* action can be characterized both as immoral and as possessed of good taste? In my opinion it cannot. It is good taste to restrain the expression of our opinions or views in society, when an opposite conduct would cause only dissensions and broils; but this is good morality also. Chesterfield, however, goes farther, and allows an expression of sentiments, which we do not entertain, if they be pleasing to those to whom they are addressed, as perfectly compatible with good manners; and this is a breach of candor. This practice is an insult to the person who is the object of it; and if he saw the real motives he would feel it to be such. Nothing which, when examined in all its lights, and its true colors, is essentially rude, can possibly be correct in point of taste; so that it has *only* the appearance, and not the true qualities, of politeness. In short, purity in the motive is equally requisite to good taste as to sound morality; for the motive constitutes the essence of the action.

The sources of good taste may now be adverted to. The nervous and sanguine temperaments, by giving fineness to the substance, and vivacity to the action of the brain, are highly conducive to refinement. All authors and artists whose works are characterized by great delicacy and beauty, have fine temperaments combined with Ideality. The most exquisite mental manifestations are those which proceed from a favorable combination of the whole faculties, in which each contributes a share of its own good qualities, and is restrained by the others from running into excess or abuse. Thus, I conceive the very admirable taste of Campbell the poet, to arise from a great endowment of the higher sentiments, Reflection and Concentrativeness; so that, on any feeling or image occurring to his mind, these faculties judge by an intuitive tact of its fitness, and modify it to the point at which it pleases them all. If a favorable developement of this kind be possessed, the higher that Ideality rises, not to run into excess, and the finer the temperament, the more perfect will be the taste. At the same time, and for the same reason, there may be much good taste, of a simple kind, with moderate Ideality, if the other faculties be favorably balanced.

As Taste arises from fine quality of brain, and a favorable combination of organs, the explanation is simple, how it may be possessed without genius. Genius arises from great vigor and activity, depending on large size, and a high temperament: these are greater endowments than equability, and an individual may be deficient in them, and yet be so favorably constituted, with respect *to the balance of the powers*, as to feel acutely the excellences or the faults of genius manifested by others. Hence many persons are really excellent critics, who could not themselves produce original works of value; hence also, many original authors, of great reputation, display very questionable Taste.

In applying these principles to actual cases, I find them borne out by numerous facts. Dr. Chalmers occasionally sins against taste, and in his head Ideality and Comparison are out of due proportion to Causality, and some other organs. In Mr. Jeffrey's bust, on the contrary, there is a very beautiful and regular developement of Eventuality, Comparison, and Causality, with a fair balance between the propensities and sentiments; and his taste is generally admirable.

As good taste is the result of the harmonious action of the faculties, we are able to perceive why taste is susceptible of so great improvement by cultivation. An author will frequently reason as profoundly, or soar as loftily, in his first essay, as after practice in writing for twenty years; but he rarely manifests the same tact at the outset of his career, as he attains by subsequent study, and the admonitions of a discriminative criticism. Reasoning depends on Causality and Comparison, and lofty flights of imagination on

Ideality; and if the organs of these faculties be large, they will execute their functions intuitively, and carry the author forward, from the first, on a bold and powerful wing; but as taste depends on the balancing and adjusting, the suppressing and elevating, the ordering and arranging, of our thoughts, feelings, and emotions, so as to produce a general harmony of the whole; it is only practice, reflection, and comparison with higher standards, that enable us successfully to approximate to excellence; and even these will do so only when the organs are by nature equably combined; for if the balance preponderate greatly in any particular direction, no effort will produce exquisite taste.

Much has been written about a *standard* of Taste; and in considering this question, a distinction requires to be made. If, by fixing a standard, we mean determining particular objects, or qualities of objects, which all men shall regard as beautiful, the attempt must necessarily be vain. A person possessing Form, Size, Constructiveness, and Ideality, may experience the most exquisite emotions of beauty from contemplating a Grecian Temple, in which another individual, in whom these organs are very deficient, may perceive nothing but stone and lime. One individual may discover, in an arrangement of colors, beauty which is quite imperceptible to a person deficient in the organ of Coloring. Or one may be delighted with music, in which another, through imperfection in the organ of Tune, may perceive no melody. Thus no object, and no qualities of objects, can be fixed upon, which *all mankind*, whatever be their original constitution, will acknowledge to be equally beautiful, and in this view no standard of Taste exists.

But *degrees of Beauty* may be estimated, in which sense a scale at least, if not a standard, of Taste, may be framed. The more favorable the original constitution of an individual is, and the greater the cultivation bestowed on his powers, he becomes the higher authority in questions of Taste. The existence of a sentiment of Justice has been denied, because individuals are found in whom it is so weak, as scarcely to influence their conduct; but Phrenology, by pointing out their defect, shows that these persons form exceptions to a general rule, and then no one thinks of appealing to them, to determine whether an action be just or unjust in any particular case. In like manner, men deficient in the faculties which give the perception of Beauty, are not authorities in Taste; but that individual is the highest judge in whom large Ideality is combined with a fine temperament, and the most favorable developement of the organs of propensity, sentiment, and intellect; and who, besides, has exercised his faculties with the greatest assiduity. His determinations in regard to degrees of beauty in objects, will form the best standards of Taste which our imperfect nature is capable of attaining.

EFFECTS OF SIZE IN THE ORGANS ON THE MANIFESTATIONS OF THE FACULTIES.

The reader is referred to the distinction between POWER and ACTIVITY in the mind, as stated on page 95 of the present work. *Cæteris paribus*, size in the organs is the measure of power in the manifestations of the faculties. The practical application of this doctrine remains to be stated; and it will be understood now, after the functions and modes of activity of the primitive faculties have been elucidated.

As size in the organs in an indispensable requisite to power in the mind, no instance ought to occur of an individual who, with a small brain, has manifested clearly and unequivocally, great force of character, animal, moral and intellectual, such as belonged to Bruce, Buonaparte, or Fox; and such accordingly phrenologists affirm to be the fact. The Phrenological Society possesses casts of the skulls of Bruce, Raphael, and La Fontaine, and they are all large. The busts and portraits of Lord Bacon, Shakspeare and Buonaparte, indicate large heads; and among living characters no individual has occurred to my observation who leaves a vivid impression of his own greatness upon the public mind, and who yet presents to their eyes only a small brain.

The European head is distinguished from the Asiatic and native

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di inferior information, and fewer amiable qualities, impress
i sentiment of their power, force, energy, or greatness; we
tirely feel that they have weight, and that, if acting against
would prove formidable opponents. This arises from
size. Buonaparte, who had an admirable tact in judging of
nature, distinguishes between mere cleverness and force of
character, and almost always prefers the latter. In his Memoirs, he speaks of some of his generals as possessing talents, intellect, book-learning, but as still being nobody, as wanting that weight and comprehensiveness which fit a man for great enterprises; while he adverts to others as possessing limited intellect and little judgment, but prodigious force of character; and considers them as admirably adapted by this qualification to lead soldiers through peril and difficulty, provided they be directed by minds superior to their own. Murat was such a man; and Buonaparte appears on the whole to have liked such officers, for they did not trouble him with thinking

for themselves, while they possessed energy adequate to the execution of his most gigantic designs. The leader of a popular party who has risen to that rank by election, or assumed it with acquiescence, will be found to have a large brain. The leaders of an army or a fleet also require a similar endowment, for otherwise they would possess authority without natural weight, and would never inspire confidence in their followers. Buonaparte had a large head; and officers and soldiers, citizens and statesmen, bowed before his mental greatness, however much they might detest the use he made of his power. In him, all the organs, animal, moral, and intellectual (Conscientiousness and, perhaps, Firmness, excepted), seem to have been large; great activity was added; and hence arose commanding energy, combined with profound and comprehensive intellectual capacity.

The Society possesses casts of the heads of Captains Franklin and Parry; and both are decidedly large, with an excellent proportion in the different orders of organs. These commanders displayed great force of character in their respective expeditions in quest of a North-west Passage. No tendency to mutiny, or insubordination, occurred even in the most trying circumstances; and this would be the case, because the men under their command would instinctively feel natural superiority coinciding with artificial rank.

The figure represents the cast of Captain Parry, taken by Deville. The brain is large, the portion before the ear greatly exceeds that behind it. The asterisks indicate the seat of Cautiousness and Causality; the region above them belongs to the moral sentiments; it is large; Firmness is conspicuously developed; but the hair gives part of the elevation at Firmness, and allowance falls to be made for its thickness.

The men who are able to attend to their private duties, and at the same time carry a load of public business on their minds, without feeling encumbered, owe this quality to great size in the brain, combined with large Knowing Organs. Those who, having small brains, find their whole powers absorbed and exhausted by their particular occupations, wonder at such men, and cannot comprehend either their motives, or the means by which they accomplish so much. It is power which distinguishes them, so that duties which to others are oppressive, press lightly on them, or afford them only amusement or relaxation. Mr. Joseph Hume, M. P. is a beautiful illustration of this doctrine. He possesses moderate organs of Causality, little Wit, less Ideality, with no great endowment of Language; and yet even his opponents allow him to manifest great force of character, with a power of application and perseverance which to ordinary minds is incomprehensible. If we look at the large brain indicated in his cast, and attend to the combination of organs which it displays, we shall perceive the source of his weight. Thurtell also showed great force of character, and his brain was large. This quality in Thurtell was the source of the intense and long enduring interest which he created and supported in the public mind. He made deep impressions on those individuals who came in contact with him, they wrote and printed their emotions, and the public caught the feeling.

In examining the heads of criminals in jail, I have found the most daring, desperate and energetic to possess large brains. When great size and an unfavorable combination occur together, the officers of justice are reduced to despair of correcting the offender. They feel a strength of character which they cannot subdue, and an evil bent which they cannot direct;—the result generally is a report from the police that the individual is incorrigible; the first capital offence is prosecuted to extremity, and he is hanged for the sake of protecting society from farther mischief. In professional pursuits, also, the men who are indisputably paramount to their fellows not merely in cleverness, but in depth and force of character, have large heads; and this holds not only in the learned professions, but in mercantile avocations. I have observed, that individuals who, born in indigence, have risen to wealth, by conducting great and extensive establishments, have uniformly brains above an average size; and mercantile travellers who succeed in procuring orders, and pushing a trade amidst a keen and arduous competition, are distinguished by the same quality. Such men make an impression, and act with a confidence of power, which gives effect to all they say or do. In a school, if the children care nothing for the master, treat him with disrespect, and he fail, after using every severity, to maintain discipline and subordination, he will be found to have a small head. In the domestic circle, if the mistress of a family (while in good health), is easily overcome, annoyed and oppressed with the cares and duties of her household, the origin of the evil will be found in too small a head.

In the Church, the effects of size are equally conspicuous. A preacher with a large brain is felt by his flock to possess weight, and they submit willingly to be led and taught by him, while they treat with indifference the feebleness that accompanies a little head. If, as occasionally happens, a preacher possess an excellent combination, that is, the organs of the sentiments and intellect large in proportion to those of the animal propensities, he will be acute, amiable, sensible, and interesting; but if the general size of his brain be under an average, he will not be impressive and commanding.

The principle that Size gives power of manifestation, forms the key to the following criticism on Dr. Chalmers. "His manner, so far from being graceful," says a contemporary writer, "is very nearly uncouth; his tones are neither musical, nor under strict subordination; in the selection of words, and management of figures, his taste, so far from being pure, is sometimes very much the reverse; his pronunciation, though vigorous and distinct, is beset with provincialisms, which time and a city audience have done very little to correct; and as to gesture, wherever we have heard him, he appeared to be totally unconscious that he had got such a thing as hands and arms to manage. In what, then, it may be asked, consists the secret of the Doctor's eloquence? Simply, as we take it, in this,—that, *while his arguments* and *illustrations* are for *the most part striking and original*, he possesses *prodigious enthusiasm* and *energy* in enforcing them; that the defects of his rhetoric are completely lost in the force of his ratiocination; that while he has *mathematics* or *logic* enough *to make his reason-*

ing acute, grasping, and *irresistible*, he has *poetry* enough to prevent it *from being dull*; thus evincing the very highest species of intellect, the union of a *sound and comprehensive judgment*, with a *fertile and brilliant imagination*. We have said he possesses *energy*, and this we take to be the great and redeeming quality of his manner, compared to which the tiny graces sink into insignificance. Whether we are facile or fastidious, whether we like or dislike the preacher's doctrine, one thing is certain, he forces *us to attend to him. A man might easily get his pocket picked while listening to Dr. Chalmers, but we defy him to fall asleep.*" The bust of Dr. Chalmers indicates a large brain.

In authorship, the same law holds good. Critics have been puzzled to account for the high rank which Dr. Samuel Johnson holds in English literature, and to discover the qualities of mind on which his eminence is founded. He has made no discoveries in morals or in science to captivate the mind. His style is stately and sonorous, and his arrangement in general good; but equal or superior graces may be found in Goldsmith, Thomson, and other authors, whom nobody would compare with him in genius. His great characteristic is force and weight; and these are the concomitants of great size in the organs. Milton's writings are highly characteristic of power, as are also those of Locke. Addison, on the other hand, is a specimen of genius produced by a felicitous combination of sentiment and intellect, without preponderating energy from great size. Power is the leading charm of Swift's writings; he is not graceful, far from elegant, his reasoning is frequently superficial, and his conclusions questionable; but he is rarely feeble. Strength, energy, and determination mark every page.

To produce its full effects, large size must be accompanied with sound health and an active temperament, as explained on p. 93; but these, while necessary to give it effect, will never compensate for its absence.

ACTIVITY in the organs, on the other hand, gives liveliness, quickness, and rapidity; Dr. Spurzheim thinks that long fibres contribute to activity. The sanguine and nervous temperaments described on pages 29, 30, and 94, afford external indications of constitutional activity. Moderate size of brain, with favorable combination, and much activity, will constitute what is commonly understood by a *clever* man in ordinary life; such an individual will form ideas rapidly, do a great deal of work, show tact and discrimination, and prove himself really a valuable and useful member of society; but he must not be overloaded with difficulties, or encumbered with obstacles, nor must the field in which he is called on to labor be too extensive.

Great errors are often committed in society through ignorance of this fact. An individual possessing a small brain, but a fine temperament, and favorable combination, perhaps distinguishes himself in a limited and subordinate sphere, or he makes one great and successful effort, in which his powers are tasked to the utmost of their limits;—the notion is then adopted that he is capable of higher duties, and of exhibiting habitually the force of mind thus displayed on a single occasion. He is, in consequence, promoted to a more arduous station. He continues to execute small matters so well, that it is difficult to point out individual instances of failure, and yet a general impression of his incapacity arises, want of success and discontent increase, and at last, after great suffering to himself, and annoyance to his employers, he is dismissed. The small brain is the origin of the incapacity; and ignorance of its effects the cause of his being misplaced.

Mankind, in extreme cases, recognise power or feebleness of mental character, and modify their conduct accordingly. Those in whom moral and religious principles do not constitute the habitual rule of conduct, treat individuals in the most different manner, according to the impression which they receive from their manner, and the estimate they form from it of their strength or weakness of mind. There are men who carry [illegible] very [illegible] the intimation of greatness, whose manner [illegible] "*Nemo me impune lacesset*;" the world [illegible] holds it safest to allow them to follow [illegible] obstruction, while they avoid [illegible] them, are the feeble and [illegible] unsteady as the wind. The wicked seize upon them, and make them their prey. The treatment received by different persons from society, is thus widely different; and it may truly be said, that a large portion of mankind cannot easily conceive the miseries inflicted on the weak by the powerful and unprincipled taking advantage of their deficiencies.

When a favorable combination, a fine temperament, and large size, are conjoined in an individual, they constitute the perfection of genius. This I conceive to have been the case in Homer and in Shakspeare. Vivacious buoyancy, ease, and fertility, arising from the first and second causes, joined with depth, strength, comprehensiveness, and masculine energy, the result of the third, place these authors above all others whom the world has ever seen. And when we consider that these rare and splendid gifts must again be united in one individual, before their equal can reappear, we shall have no difficulty in perceiving why so few Homers and Shakspeares are given by nature to the world.

In these observations, I have treated of the effects of Size in the brain in general, on the general manifestations of the mind, to bring the doctrine clearly and forcibly before the reader; but I beg of him not to fall into the mistake of taking *general* size as an indication of *particular* power, for then difficulties without end will be encountered. For example, it has often been objected, that a particular individual wears a large hat, indicating a large brain, and yet that he has no scope of *intellect*, and no ability, in the general sense of the term. The answer is, that we must look for the *power* in the *direction of the Size*, as explained on p. 90. If the large hat is requisite, on account of a great developement of the animal organs, we must expect the individual to be only a powerful *animal*, and he may be this, and at the same time a weak *man*. If the size predominate in the region of the sentiments, we may then look for greatness in moral worth; but it is only when great size, combined with an active temperament, pervades the whole three classes of organs, Propensities, Sentiments, and Intellect, that Phrenology authorises us to expect a general character, vigorous, comprehensive and profound.

The circumstances which *modify the effects of size* have already been stated (pp. 29, 30. 93,) when treating of the principles of the science, to which the reader is respectfully referred.

COMBINATIONS IN SIZE, OR EFFECTS OF THE ORGANS WHEN COMBINED IN DIFFERENT RELATIVE PROPORTIONS.

THE primitive functions of each organ were *discovered*, by observing cases in which it decidedly predominated over, or fell short of, other organs, in point of size; and by similar observations each must still be verified. After the discovery is established, its practical application deserves attention. Every individual possesses all the organs, but they are combined in different degrees of relative size in different persons; and the manifestations of each are modified in some degree by the influence of those with which it is combined. The effect of combination, however, is not to change the proper functions of the different organs, but only to modify the *manner* in which they are manifested; or the acts in which they seek gratification.

Three rules may be laid down for estimating the effects of differences in relative size, occurring in the organs of the same brain.

RULE FIRST.—Every faculty desires gratification with a degree of energy proportionate to the size of its organ;* and those faculties will be habitually indulged, the organs of which are largest in the individual.†

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* The condition, *cæteris paribus*, is always understood, and therefore need not be repeated, in treating of the effects of Size.

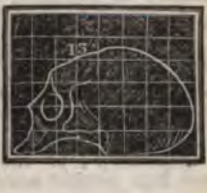
† Having been solicited to state, in methodical order, the effects of the combinations so far as observed, I tried to do this in the MS. of the present work; but found the result to be a tedious enumeration of propositions, adapted to Individuality alone, difficult to be remembered, and withal extremely incomplete. I have therefore preferred stating principles chiefly, accompanied with illustrations, to render them intelligible, and show their application. This method was adopted in the Elements for the sake of brevity, and, on mature examination it appears

Examples.—If the animal organs in general are large, and the organs of the moral sentiments and intellect in general small, the individual will be naturally prone to animal indulgence in the highest degree, and disposed to seek gratification in the directest way, and in the lowest pursuits.

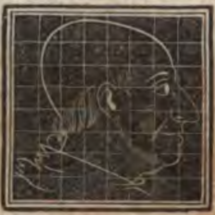
If, on the other hand, the organs of the moral sentiments and intellect greatly predominate, the individual will be naturally prone to moral and intellectual pursuits; such persons are "a law unto themselves."

In illustration of this rule, the skull of a Charib, and the head of Pope Alexander VI., who was a monster of wickedness in human form, may be contrasted with the skull of Raphael, and the head of Melancthon the Reformer.

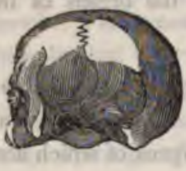
CHARIB



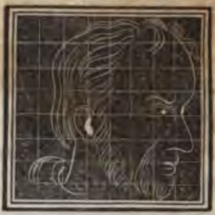
Pope ALEXANDER VI.



RAPHAEL.



MELANCTHON.



In farther illustration, the heads of Burke and Hare the murderers, represented on page 80, may be contrasted with those of the Reverend Mr. M., given on page 81, and Captain Parry, on p. 529. In the Charib, Alexander VI., Burke, and Hare, the basilar

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to be preferable in itself. The reader in whom the Reflecting Organs and Concentrativeness are amply developed, will not only easily comprehend the rules here laid down, but be able greatly to enlarge the sphere of their application.

and posterior regions of the brain, dedicated to the animal propensities, greatly preponderate over the anterior and coronal regions, which manifest the intellect and moral sentiments;[*] in Raphael, the basilar region is large, but the intellectual and moral decidedly preponderate; in Melancthon, who was distinguished for benignity and wisdom in a rude and excited age, the anterior and coronal regions very greatly predominate; in the Reverend Mr. M. the same favorable combination occurs, and he was remarkable for a similar character; and in Captain Parry, the base is large, but with great predominance of the anterior and coronal regions. Now, under the rule before stated, the first class will be naturally prone to low and degrading pursuits, having for their object the gratification of Amativeness, Destructiveness, Acquisitiveness, and other inferior feelings; they will possess very few aspirations after the noble and beneficient virtues which dignify human nature; be blind to the obligations of justice, piety, and mercy; and totally incapable of appreciating the advantages of science. The second class will form a direct contrast to them. They will naturally feel the superiority of moral and intellectual pursuits, ardently desire to advance in the career of improvement, and instinctively love every virtue and attainment that is calculated to increase the true dignity and happiness of Man. It is common for individuals to assume themselves as standards for judging of mankind in general; yet no criterion can be more fallacious; the consciousness of men belonging to the inferior class would represent the race as base, grovelling and selfish, that of the higher as elevated, benignant, and intellectual.

RULE SECOND.—As there are three kinds of faculties, Animal, Moral and Intellectual, which are not homogeneous, it may happen that several large animal organs are combined in the same individual, with several moral and intellectual organs highly developed.

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[*] The size of the coronal region is best judged of by the height and breadth of the brain above Cautiousness and Causality, the situation of which organs is indicated in some of the figures by asterisks. Wherever that region is shallow or narrow the moral feelings will be comparatively feeble.

individual expression of particular figures corresponds with their character and employment; and whether calm or agitated, they are at all times equally remote from affectation or insipidity. The *general interest* of his subject is *kept up throughout the whole composition; the present action implies the past, and anticipates the future*. If, in sublimity of thought, Raffaello has been surpassed by his great contemporary Michael Angelo,—if, in purity of outline and form, by the antique,—and in coloring and chiaro-oscuro by the Lombard and Venetian schools; yet in *historical compositions* he has no rival; and for *invention*, *expression*, and *the power of telling a story*, he has never been approached."

M. Fuseli, speaking of the qualities of Raphael's style as a painter, says, that "perfect human beauty he has not represented. No face of Raphael's is perfectly beautiful; no figure of his, in the abstract, possesses the proportions that could raise it to a standard of imitation. *Form to him was only a vehicle of character or pathos;* and to these he adapted it in a mode, and with a truth, which leaves all attempts at emendation hopeless. His composition always hastens *to the most necessary point as its centre;* and *from* that disseminates, *to* that leads back, its rays, all secondary ones. Group, form, and contrast, are subordinate to the event; and common-place is ever excluded. His expression is unmixed and pure, in strict unison with, and decided by, character, whether calm, animated, agitated, convulsed, or absorbed, by the inspiring passion: it *never contradicts its cause*, and is equally remote from tameness and grimace. The moment of his choice never suffers the action to stagnate or to expire. It is *the moment of transition*, the *crisis big with the past, and pregnant with the future.* His invention connects the utmost stretch of possibility with the most plausible degree of probability, in a manner that equally surprises our fancy, persuades our judgment, and affects our heart."

In all this criticism we have the most exact description of the manifestations of Comparison and Causality, which give scope, depth, and force of intellectual conception, the power of combining means to attain an end, and the natural tendency to keep the means in their appropriate place, as accessaries merely to the main design.

Raphael's genius, accordingly, can be fully appreciated only after having exercised the higher intellectual faculties on his works. Sir Joshua Reynolds acknowledges that it was only after repeated visits, and *deep reflection*, that he discovered their merits, his first impression having been that of mortification and disappointment, from not seeing *at once* all their greatness. The excellence of Raphael's style, says he, is not on the surface, "*but lies deep*, and at the first view is seen but mistily. It is the florid style which strikes at once, and captivates the eye for a time, without ever satisfying the judgment." If, on the other hand, the Knowing and Constructive Organs alone had predominated in Raphael, all these accessaries would have become principles; and the critic who possessed intellect, would have felt a decided deficiency of design, story, interest, and object in his paintings. Hence high Reflecting Organs are indispensable to historical painting; and Haydon, who has manifested great power of conception in this line, possesses these in an eminent degree. The late Sir H. Raeburn, whose style of portrait painting approaches, in point of dignity and force, the historical, possessed also a full developement of the upper part of the forehead, as well as the pictorial organs. In sculpture the same rule holds. The artist who has Form, Size, Constructiveness, and Ideality large, without high Reflecting Organs, may chisel a vase, or cut out a wreath of flowers; but he will never reach grandeur of conception, or confer thought, dignity, and power, upon his productions.

It follows from these principles, that a sculptor or painter will represent one class of objects with greater truth and fidelity than another, according to the particular combination of organs which predominates in his head. Thus, to model the exquisite softness, delicacy, and symmetry of the female form, the constructive organs, Ideality, and the moral sentiments, may suffice, without much depth and power of reflection. To represent, on the other hand, whether on canvass or in marble, the man of genius, profound in thought, and elevated and intense in emotion, the artist himself power and comprehensiveness, and it depends, as already explained,[*] on a *harmonious combination*, and due cultivation, of the organs in general. In Raphael these requisites occurred; and it is because Nature rarely unites the particular organs which constitute a painter,—high reflecting organs, large general size, harmonious proportion, and natural activity,—all in one individual, that so few Raphaels appear.

In no instance is it a matter of indifference to the talents and dispositions of the individual, whether any particular organ be large or small. If it be large, although its *abuses* may be prevented by restraint imposed by the other faculties; still its presence will operate on the mind. If, for instance, large Combativeness and Destructiveness be combined with a large developement of the moral and intellectual organs, the whole life may be passed without the occurrence of any outrage; and it may be asked, What effect, in this case, do the former organs produce? We shall find the answer, by supposing all the other organs to remain large, while those are diminished in size, and tracing the effect of the change. The result would be an undue preponderance of moral and intellectual qualities, degenerating into effeminacy. Large Combativeness and Destructiveness, add the elements of repulsion and aggression to such an extent as to permit the manifestation of manly enterprise and courage. Hence, in the case supposed, these organs would be duly performing their functions, when the superficial observer would imagine them to be entirely superfluous.

In like manner, if an organ be greatly deficient, its small size cannot be compensated for by that of the other organs, however large. Suppose, for example, that, in an individual, Benevolence, Veneration, Love of Approbation, and Intellect, are all large, and Conscientiousness very deficient, it may be thought that the absence of Conscientiousness will be of small importance, as its influence will be compensated by that of these other faculties. This, however, will not be the case. The sentiment of *duty* originates from Conscientiousness. Hence the individual supposed would inspire with the desire to do him good, this being beyond its limits.

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[*] Page 427.

Occasionally, very unusual combinations of particular organs present themselves, the effects of which cannot, by ordinary sagacity, be divined; and in such cases the phrenologist ought not to predicate any thing, but ask for information. As, however, nature is constant, he may speak with confidence the next time he meets with a similar case. Before it was ascertained that Secretiveness and Imitation confer the talent for acting, I met with an instance of this combination, and predicated something from it, which was entirely erroneous. This occurrence was loudly and extensively proclaimed as subversive of Phrenology; but to me it was a valuable lesson, and a discovery of some importance; ever afterwards I found that talent accompany that combination.

RULE THIRD. — Where all the organs appear in nearly equal proportions to each other, the individual, if left to himself, will exhibit opposite phases of character, according as the animal propensities or moral sentiments predominate for the time. He will pass his life in alternate sinning and repenting. If external influence is brought to operate upon him, his conduct will be greatly modified by it; if placed, for instance, under severe discipline, and moral restraint, these will cast the balance, for the time, in favor of the higher sentiments; if exposed to the solicitation of profligate associates, the animal propensities will obtain triumphant sway. Maxwell, who was executed for housebreaking and theft, is an example of this combination. In his head the three orders of organs are well developed, but the region of the Sentiments, lying above the asterisks, is deficient in size, in proportion to the basilar and occipital regions manifesting the Propensities. While subjected to the discipline of the army, he preserved a fair reputation: but when he fell into want, his propensities assumed the ascendency, he joined a company of thieves, adopted their practices, and was executed.

The principles now laid down remove an objection that has frequently been stated, viz. that as different combinations modify the manner in which the faculties are manifested, and as the functions of some parts at the base of the brain are still undiscovered, no certainty can be obtained regarding the functions even of the higher organs; because, say the objectors, all the manifestations actually perceived may be the result of the joint action of the known and unknown parts, and hence it is impossible to determine the specific functions of each. The answer to this objection is, that the function of each organ remains invariable, whatever direction the manifestations may take in consequence of its acting in combination with other organs. Hence, if we suppose the unknown convolutions at the base of the brain to be the organs of Hunger and Thirst, as several facts indicate, then Tune combined with these parts large, would be directed to Bacchanalian songs; if combined with these small, and Veneration large, hymns would become the subjects of its manifestation; but, in either case, Tune would perform only its primitive function of producing melody.

COMBINATIONS IN ACTIVITY.

WHERE several organs are large in the same individual, they have a natural tendency to combine in activity, and to prompt him to a line of conduct calculated to gratify them all. Where, however, all or the greater part of the organs are possessed in nearly equal proportions, important practical effects may be produced, by establishing Combinations in activity among particular organs, or groups of organs. For example, if Individuality, Eventuality, Causality, Comparison and Language, be all large, they will naturally tend to act together, and the result of their combined activity will be a natural talent for public speaking, or literary composition. If Language be small, it will be extremely difficult to establish such a combination in activity, and the natural talent will be deficient; but if we take two individuals, in both of whom this group of organs *is of an average size*, and if we train one of them to a mechanical employment, and the other to the Bar; in the latter, the Reflecting Organs and that of Language will be trained to act together, and the result will be an acquired facility in writing and debate; whereas, in the former individual, in consequence of the organ of Language never being accustomed to act in combination with those of Intellect, this facility will be wanting. On the same principle, if a person having an excellent endowment of the organs of Propensity, Sentiment and Intellect, were introduced for the first time into higher society than that to which he had been accustomed, it might happen that he would lose for a moment the command of his faculties, and exhibit an unhappy specimen of awkwardness and embarrassment. This would arise from irregular and inharmonious action in the different organs; Veneration powerfully excited would prompt him to manifest profound respect; Love of Approbation would inspire him with a strong desire to exhibit a pleasing and becoming appearance; Cautiousness would produce alarm, lest he should fail in an essential of breeding; Self-Esteem would feel compromised by embarrassment stealing on the mind; and the intellect, distracted by these vivacious and conflicting emotions, would be unable to regulate the conduct according to the rules of propriety. When familiarized with the situation, the sentiments would subside into a state of less energetic and more harmonious action; the intellect, assuming the supremacy, would regulate and direct the feelings; and then the individual might become the idol and ornament of the circle, in which he at first made so awkward a *debut*.

It is in virtue of this principle that education produces its most important effects. If, for instance, we take two individuals, in each of whom all the organs are developed in an average degree; and if the one of them has been educated among persons of sordid and mercenary dispositions, Acquisitiveness and Self-Esteem would then be cultivated in him into a high degree of activity, and self-interest and personal aggrandizement would be viewed as the great objects of life. If the Love of Approbation were trained into combined activity with these faculties, it would desire distinction in wealth or power: if Veneration were trained to act in concert with them, it would take the direction of admiring the rich and great; and, Conscientiousness not being predominantly vigorous, would only intimate that such pursuits were unworthy, without possessing the power by itself of overcoming or controlling the whole combination against it. If another individual, possessing the same developement, were trained amidst moral and religious society, in whose habitual conduct the practice of benevolence and justice towards men, and veneration towards GOD, was regarded as the leading objects of human existence, the Love of Approbation, acting with this combination, would desire esteem for honorable and virtuous actions; and Acquisitiveness would be viewed as the means of procuring gratification to these higher powers, but not as itself an object of paramount importance. The practical conduct of the two individuals might be very different, in consequence of this difference of training.

The principle now under discussion is not inconsistent with the influence of size; because it is only in individuals in whom the organs are nearly on an equality in point of size, that great effects can be produced by combinations in activity. In such cases the phrenologist, in estimating the effects of size, always inquires into the education bestowed.

The doctrine of combinations in activity explains several other mental phenomena of an interesting nature. In viewing the heads of the higher and lower classes of society, we do not perceive the animal organs preponderating in point of size in the latter, and those of the moral sentiments in the former, in any very palpable degree. The high polish, therefore, which characterizes the upper ranks, is the result of sustained harmony in the action of the different faculties, and especially in those of the moral sentiments, induced by long cultivation; while the rudeness observable in some of the lower orders results from a predominating combination in activity among the lower propensities; while the awkwardness that frequently characterizes them, arises from the propensities, sentiments, and intellect, not being habituated to act together. If, however, an individual is very deficient in the higher organs, he will remain vulgar, in consequence of this defect, although born and educated in the best society, and in spite of every effort to communicate refinement by training; while, on the other hand, if a very favorable developement of the organs of the higher sentiments and intellect, with a fine temperament, is possessed, the individual, in whatever rank he moves, will have the stamp of nature's nobility.

Several moral phenomena, which were complete enigmas to the older metaphysicians, are explained by this principle. Dr. Adam Smith, in his Theory of Moral Sentiments, Chapter II., "On the influence of fortune upon the sentiments of mankind, with regard to the merit and demerit of actions," states the following case: A person throws a large stone over a wall into the public street, without giving warning to those who may be passing, and without regarding where it may fall; if it light upon a person's head, and knock out his brains, we would punish the offender pretty severely; but if it fall upon the ground, and hurt nobody, we would be offended with the same measure of punishment, which, in the former event, we would reckon just, and yet the demerit in both cases is the same. Dr. Smith gives no theory to account for these differences of moral determination. Phrenology explains them. If the stone fall upon an unhappy passenger, Benevolence in the spectator is outraged;—if the sufferer had a wife and family, Philoprogenitiveness and Adhesiveness are offended. Self-Esteem and Cautiousness also are excited, by the idea that we might have shared the same fate; all these rouse Destructiveness, and the whole together loudly demand a smart infliction on the transgressor. In the other event, when the stone falls to the ground, and hurts nobody, the only faculties excited are Intellect and Conscientiousness, and probably Cautiousness, and these calmly look at the motive of the offender, which probably was mere thoughtless levity, and award a slight punishment against him. The proper sentence, in such a case, is that which would be pronounced by Intellect, and the moral sentiments acting in combination, uninfluenced by the lower propensities.

Dr. Smith states another case. One friend solicits a place for another, and after using the greatest efforts is unsuccessful. Gratitude in this case is less warm than if the place had been obtained; and yet the merit is the same. In the event of success, Self-Esteem, Acquisitiveness, and the other animal organs, are gratified, and excite Conscientiousness, and Benevolence to gratitude. In the opposite result, the repressing influence of these faculties, *disappointed and grieved*, chills the glow of Benevolence and Conscientiousness, and feeble gratitude is felt.

When a person becomes judge in his own cause, his *intellect* may present to him the facts exactly as they happened, but these excite in his mind, not simply the sentiment of Conscientiousness, but also Self-Love, Acquisitiveness, and, if he has been grievously injured, Destructiveness. Hence the decision of his own mind, on his own case, proceeds from Intellect, influenced and directed by all these lower feelings acting along with Conscientiousness. Present the same case to an impartial spectator, favorably constituted, and his decision will be the result of Conscientiousness and Intellect, unalloyed by the intermixture of the selfish emotions.

Pure or abstract justice, then, in the proper sense of the term, is the result of combined activity of Intellect and Conscientiousness, uninfluenced by the animal propensities. For example, if we are called on to judge of the conduct of a person accused, in order to arrive at an absolutely just decision, the intellect must present to us a clear perception of his real motives, and the tendency of his action; if either of these is wanting, the sentiment of Conscientiousness acts not on a real, but on an imperfect or imaginary case;—in the next place, all the animal propensities must be quiescent; because, if offended, Selfishness or anger, or Acquisitiveness or ambition, or Adhesiveness, mingle with Conscientiousness, the fountain is polluted, and the stream cannot be pure. It is an interesting fact, that the dictates of Conscientiousness, when perfectly enlightened, and not misled by the lower feelings, will be found always to harmonize with the enlightened dictates of Benevolence and Veneration; because the moral sentiments have been so constituted as to coincide in their results; and hence, wherever any action or opinion is felt to stand in opposition to any of these ments, we may, without hesitation, suspect either that it is wrong, or that the intellect is not completely informed concerning its nature and legitimate consequences.

In party-politics, Adhesiveness, Love of Approbation, and Benevolence, not to mention Combativeness and Destructiveness, are extremely apt to enter into vivid activity, in surveying the conduct of an individual who has distinguished himself by zealous efforts upon our own side; and our judgment of his conduct will, in consequence, be the determination of Intellect and Conscientiousness, disturbed and led astray by these inferior feelings.

The doctrine of the primitive functions of the faculties, explained in the first part of this work, and of the Combinations now laid down, shows *why* Phrenology does not enable us to predict *actions*. Destructiveness, for example, is not a tendency to kill a man or a beast as a specific act, but a mere general propensity, capable of leading to destruction as its ultimate result, but which may be manifested in a great variety of ways (many of them justifiable, others unjustifiable,) according as it is directed by the faculties, which, in each particular instance, act along with it; thus, acting along with large Acquisitiveness, and in the absence of Conscientiousness, it may prompt to murder; while acting along with large Conscientiousness and Benevolence, it may prove the orphan's help, and the widow's stay, by arresting the arm of the oppressor.

PRACTICAL APPLICATION OF THE DOCTRINE OF THE COMBINATIONS.

I CANNOT too earnestly repeat, that the principles now illustrated are practical and important. If any one require the assistance of a human being in affairs of moment, let him be assured that attention to the three elements of temperament, combination of mental organs, and education or training, will afford him more certain information regarding the inherent qualities of the object and his practical capabilities, than certificates of character and attainments, such as are commonly relied on. The extent to which this work has already attained, prevents me, however, from doing more than making a few observations.

In one instance I refused to hire a boy as a servant, because I found his head to belong to the inferior class, although he was introduced by a woman whose good character and discrimination I had long known, and who gave him an excellent character. That individual was at first greatly incensed at my refusing to engage the boy, but within a month she returned, and said that she had been grossly imposed upon herself by a neighbor, whose son the boy was; that she had since learned that he was a thief, and had been dismissed from his previous service for stealing. On another occasion I hired a female servant, because her head belonged to the superior class, although a former mistress gave her a very indifferent character,—the result was equally in favor of Phrenology. She turned out an excellent servant, and remained with me for several years, until she was respectably married.*

When a servant is to be hired, the points to be attended to are the following.

First. The temperament.—If this be lymphatic, there will be little spontaneous activity; work will be a burden; and exhaustion will soon follow from forced application. If it be purely nervous, there will be great vivacity, and a strong natural tendency to activity; but physical strength will not be present in a corresponding degree. Combinations of the sanguine and bilious, or bilious and nervous temperaments, are the best; the bilious bestowing the quality of endurance, and the sanguine or nervous that of activity.

Second. The proportions of the different regions of the brain to each other.—If the base of the brain, the seat of the animal organs, be large, and the coronal region be shallow and narrow, the animal feelings will be strong, and the moral weak. If both of these regions be large, and the anterior lobe of the brain small, the dispositions may be good, but the intellect will be weak. If all three be large, the moral and intellectual predominating, the best combination of qualities will be present.

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* A report of eleven cases observed in the Dublin Penitentiary is published in the Phrenological Journal, No. xx. p. [illegible], in which the dispositions were inferred from development of brain.

Third, The proportions of particular organs to each other.—If the lower region of the forehead be largely developed, and the upper deficient, the intellect will execute well whatever work is placed before it; but it will be limited in its capacity of foreseeing what ought to be done, if not pointed out, and of arranging details in reference to the whole. If the upper part of the forehead be large, and the lower deficient, the power of abstract thinking (which a servant rarely requires, and is almost never called on to exercise) will be considerable, but quite uncultivated, and destitute of materials to act on; while the talent for observing details, the love of order and arrangement, and, in short, practical usefulness, will be deficient. The best combination of the intellectual organs for a servant, is that which occurs when the lower region of the forehead is large, the middle region immediately above the nose, up to the line of the hair, is also large, and the upper lateral region full. The dispositions depend on the combinations of the moral and animal organs. If Acquisitiveness, Secretiveness, Love of Approbation, and Veneration be all large, and Conscientiousness deficient, the servant will be selfish and cunning; but extremely plausible, deferential, and polite; eye-service will be rendered abundantly, but conscientious discharge of duty will be wanting. If Benevolence, Conscientiousness, Firmness, Self-Esteem, and Combativeness be large, in combination with Cautiousness, Secretiveness, Love of Approbation, and Veneration moderate, there may be great fidelity and honesty, with heat of temper, unbending stiffness of deportment, and, in short, an exterior manner, the reverse of the former; but internal dispositions and practical conduct in situations of trust far superior. The combinations also determine the fitness of the individual for particular employments; a female with small Philoprogenitiveness ought never to be employed as a nursery-maid; nor one deficient in Order and Ideality as a lady's maid. A man deficient in Conscientiousness is unfit to be a butler or steward. The varieties of combination are extremely numerous, and the effects of them can be learned only by experience.

struction in their own nature, and in the proper direction of their feelings, would, in many instances, remedy this evil. But while ignorance continues, it is advisable to rely chiefly on natural qualities: for example, if one servant has Self-Esteem large, a companion should be selected in whom this organ is moderate; and the same with Combativeness. When this is neglected, the natural language of Self-Esteem or Combativeness in the one involuntarily excites the same feeling in the other, and harmony is nearly impossible: whereas, if one has Self-Esteem large, and the other has it small, the natural expression of the former is not painful to the latter; on the contrary, the absence of pretension, which attends a small Self-Esteem, renders the latter agreeable to the former, and a sincere mutual regard may arise between them.

It will be obvious to every reflecting person, that the circumstance of a servant being rejected by a phrenologist, is no proof of the individual being essentially bad; it shows only, that, in one or other of the six points before mentioned, the individual did not suit the particular phrenologist, and no more. The servant may be admirably qualified for a different employer.

These observations are offered as hints of several particulars which appear to me proper to be attended to, and not as complete practical directions. The elements which compose human character are so numerous, their combinations so intricate, and so little has been done in the practical application of the science, in the manner now recommended, that it is impossible to be too modest either in giving directions or in promising results. Experience is the great teacher, and my sole object is to induce phrenologists to seek experience by practice. I am aware that many of my readers will feel, that, to act upon the principles unfolded even in this brief statement, much greater attainments would be requisite than they at present possess; and hence, many of them may consider the remarks as altogether useless; but several answers may be made to this objection. *First*, There are several phrenologists who actually practise what is here recommended, and have experienced great advantages from it; and what has been done successfully and with benefit by some, may be accomplished by others. *Secondly*, Science is useless unless it be practical; all practical sciences must advance by experience; and it is only by beginning and persevering that experience can be gained. And, *thirdly*, Even those persons who are conscious of incapacity to practice these rules, must perceive the advantage of acting on them if they could; and must feel that, until some mode of guiding the judgment in the selection of servants shall be resorted to, which shall bring into view the points before treated of, uncertainty, disappointment, and annoyance, must afflict both masters and servants. And, *finally*, Every person of common reflection will acknowledge, that while it would be a great advantage to obtain the foregoing knowledge of human character, there is no system of mental philosophy in existence which affords even the least aid in attempting it, if Phrenology does not do so.

This application of Phrenology has suggested the question, Are individuals with "ill shaped heads" to become "outcasts from society?" This is precisely the evil which, under the actual system of criminal legislation, exists, and which the phrenologists are laboring to remove. An unfavorably developed brain, and good natural dispositions, are two conditions, which do not co-exist in nature. Phrenologists, therefore, by establishing the fact, that an imperfectly formed brain renders an individual naturally prone to vice, will afford an inducement to society to treat men so constituted as *moral patients*, and to use more effectual means for restraining their propensities than any that are at present adopted. This, in my opinion, would be preferable to the existing practice, which leaves men with the worst natural dispositions at liberty, in the worst of circumstances, to follow their instinctive tendencies, and only punishes them severely after having committed crimes. At present these beings are surrounded by want, misery, and the means of intoxication. They transgress the criminal law, are confined in jails and bridewells, calculated to excite their propensities, and to afford little cultivation to their moral powers; they are steeped in vice, branded with infamy, and then ejected into the immoral atmosphere from which they were taken; a mode of treatment which could not exist, if Phrenology were believed and understood.

It has been further asked by way of objection, "Does Mr. Combe deny, that in the case he mentions, the boy whom he rejected might have had a good character, notwithstanding the indications of his original propensities? If he denies this, he denies a proposition which he himself has always stated, and from which he derives the practical value of Phrenology; namely, that the original propensities can be corrected, and even eradicated, by education, and other means."

Answer: I have not stated that the "original propensities can be *eradicated* by education and other means." If so, Phrenology would necessarily be a dream. What I have said is this,—that all the faculties may be *directed* to proper objects, and, when so directed, their action will become good. But to guide strong animal propensities to virtue, there must be a directing power. If there be vigorous, moral, and intellectual faculties in the individual himself, he will, in that case, be a law and a guide unto himself. If, however, the moral and intellectual faculties be deficient, which was the case with the individual under discussion, then I certainly maintain, that strong animal feelings will *not guide themselves* to virtue. In this case, the directing power must be supplied *from without*. The case of E. S., mentioned in the Phrenological Journal, No. XXI. p. 82. and 147, is exactly in point, and illustrates the positions here maintained. Now, if the boy had been placed from infancy in an asylum, from which temptation to vice was excluded, and in which the highest moral and intellectual treatment was administered, he might have had a good character, notwithstanding the form of his brain; because, *so situated*, he *could not* have offended. But I was informed that he had been brought up in the ordinary circumstances of the laboring classes in this country; and extensive observation had convinced me, that that condition does not withdraw temptation from the propensities, and does not supply moral and intellectual stimulus to the higher faculties, sufficient to direct a mind constituted like his to morality. I therefore inferred, that his good character was false; which it actually proved to be. At present society is greatly deficient in institutions in which the moral influence of higher minds can be [illegible] to bear on inferior minds, in the absence of temptation.

consequence also of the lamentable ignorance of the nature of individuals, which too generally abounds, the mental deficiencies which the tendency to crime originates are not understood, and still less is the immense power of moral influence which the best order of minds could wield over the inferior duly appreciated. This influence, however, cannot exert itself efficiently, unless external temptation to evil be withdrawn, which cannot be the case without institutions formed for the purpose. Phrenology will hasten the day when these shall exist. Society is in possession, from history and observation, of a pretty accurate knowledge of *human nature in general*; but this knowledge is *too general* to be practically useful. When an individual is presented to them, they cannot tell whether he is naturally a Caligula or a Washington. Phrenology not only gives a scientific basis and form to the *general knowledge* of mankind already existing, but renders it available in *particular* instances; it unfolds the natural qualities of *individual* men, and enables us to judge how far they will be *inclined* to one course of action or to another. I consider it, therefore, neither unjust nor inhumane to decline taking into my service individuals whom I know to be unfitted by their mental qualities for the duties which they would be required to perform. In short, if society at large would read the marks set by Providence on men, and act according to reason and sound morality, then, instead of giving false characters of vicious individuals (through Benevolence acting without Conscientiousness,) and, in consequence, exposing each other to loss of property and life by criminal depredations, they would see the propriety of treating, as moral patients, those persons whose mental deficiencies render them incapable of guiding themselves to virtue.

The principles now expounded, apply to the selection of individuals to fill every situation in life. In my separate work, on "the Constitution of Man," the application of Phrenology to morals and practical conduct, is farther elucidated.

ON THE COINCIDENCE BETWEEN THE NATURAL TALENTS AND DISPOSITIONS OF NATIONS, AND THE DEVELOPEMENT OF THEIR BRAINS.

THE mental character of an individual, at any given time, is the result of his natural endowment of faculties, modified by the circumstances in which he has been placed. The first element, or natural constitution, is admitted, by most thinking men, to form the basis of, and prescribe the limits to, the operation of the second. If a child is by nature extremely combative, and very little cautious, highly prone to covetousness, and very insensible to justice, a reflecting guardian will adopt a different method of education, and expect different consequences, than if his natural dispositions were exactly the reverse.

A nation is composed of individuals, and what is true of all the parts (which in a nation preserve their individuality,) must hold good of the whole ;—nevertheless the fashionable doctrine is, that national character depends altogether on external circumstances ; and that the *native* stock of animal, moral, and intellectual powers on which these operate, is the same in New Holland and in England, in Hindostan and in France. Mr. Stewart informs us, "That the capacities of the human mind have been, in all ages, the same ; and that the diversity of phenomena exhibited by our species is the result merely of the different circumstances in which men are placed." "This," says he, "has long been received as an uncontrovertible logical maxim ; or rather, such is the influence of early instruction, that we are apt to regard it as one of the most obvious suggestions of common sense. And yet, till about the time of Montesquieu, it was by no means so generally recognised by the learned as to have a sensible influence on the fashionable tone of thinking over Europe."*

There is some ambiguity in this passage.—The proposition, that "the capacities of the human mind have been, *in all AGES*, the same," does not necessarily imply that they have been alike *in all NATIONS.* The Hindoo mind may have been the same in the year 100 as in the year 1800, and so may the English and all other national minds; but it does not follow that either in the year 100 or 1800 the English and Hindoo minds were constituted by nature alike; and yet this is what I understand Mr. Stewart to mean; for he adds, "that the diversity of phenomena exhibited by our *species* is the result *merely* of the different circumstances in which men are placed;" embracing in this proposition men of every nation as equally gifted in natural powers. Now, there is reason to question this doctrine, and to regard it as not merely speculatively erroneous, but as laying the foundation of a great deal of most hurtful practice.

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* Dissertation, p. 53.

When we regard the different quarters of the globe, we are struck with the extreme dissimilarity in the attainments of the varieties of men who inhabit them. If we glance over the history of Europe, Asia, Africa, and America, we shall find distinct and permanent features of character which strongly indicate natural differences in their mental constitutions. The inhabitants of Europe have manifested, in all ages, a strong tendency towards moral and intellectual improvement. As far back as history reaches, we find society instituted, arts practised, and literature taking root, not only in intervals of tranquillity, but amidst the alarms of war. Before the foundation of Rome, the Etruscans had established civilization and the arts in Italy. Under the Greek and Roman empires, philosophy, literature, and the fine arts, were sedulously and successfully cultivated; and that portion of the people whose wealth enabled them to pay for education, attained a high degree of intelligence and refinement. By the irruption of the northern hordes, these countries were subsequently involved in a chaos of ignorance;—but again the sun of science rose, the clouds of Gothic darkness were dispelled, and Europe took the lead of the world in science, morals, and philosophy. In the inhabitants of this portion of the globe, there appears an elasticity of mind incapable of being permanently repressed. Borne down for a time by external violence, their mental energies seem to have gathered strength under the restraint, have burst their fetters, and at length overcome every obstacle opposed to their expansion.

When, on the other hand, we turn our attention to Asia, we perceive manners and institutions, which belong to a period too remote to be ascertained, and yet far inferior to the European standard. The people of Asia early arrived at a point comparatively low in the scale of improvement, which they have never passed.

The history of Africa, so far as Africa can be said to have a history, presents similar phenomena. The annals of the races who have inhabited that Continent, with few exceptions, exhibit one unbroken scene of moral and intellectual desolation; and in a quarter of the globe embracing the greatest varieties of soil and climate, no nation is at this day to be found whose institutions indicate even moderate civilization.*

The aspect of native America is still more deplorable. Surrounded for centuries by European knowledge, enterprise, and energy, and incited to improvement by the example of European institutions, they remain, at the present time, the same miserable, wandering, houseless, and lawless savages as their ancestors were, when Columbus first set foot upon their soil. Partial exceptions to this description may be found in some of the southern districts of North America; but the numbers who have even attempted to adopt the mode of civilized life are so small, and the progress made by them so limited, that, speaking of the race, we do not exaggerate in saying, that they remain to the present hour enveloped in all their primitive barbarity, and that they have profited nothing by the introduction amongst them of arts, sciences, and philosophy. The same observations have occurred to a writer in the Edinburgh Review. The following remarks, on the native American character, appeared in that work in an article on "Howison's Upper Canada," June, 1822:—"From all that we learn," says the Reviewer, "of the state of the aborigines of this great continent from this volume, and from every other source of information, it is evident that they are making no advances towards civilization. It is certainly a striking and mysterious fact, that a race of men should thus have continued for ages stationary in a state of the rudest barbarism. That tendency to improvement, a principle that has been thought more than perhaps any other to distinguish man from the lower animals, would seem to be totally wanting in them. Generation after generation passes away, and no traces of advancement distinguish the last from the first. The mighty wilderness they inhabit may be traversed from end to end, and hardly a vestige be discovered that marks the hand of man. It might naturally have been expected, that, in the course of ages, some superior genius would have arisen among them to inspire his countrymen with a desire to cultivate the arts of peace, and establish some durable civil institution; or that, at least, during the long period since the Europeans have been settled amongst them, and taught them, by such striking examples, the benefits of industry and social order, they would have been tempted to endeavor to participate in blessings thus providentially brought within their reach. But all has been unavailing; and it now seems certain that the North American Indians, like the bears and wolves, are destined to flee at the approach of civilized man, and to fall before his renovating hand, and disappear from the face of the earth along with those ancient forests which alone afford them sustenance and shelter."

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* Since the observation in the text was written, accounts have appeared of a people discovered by Major Clapperton in the interior of Africa, in a state of comparative civilization. It is said, that, although they are jet black, they are not Negroes, and it is conjectured that they are the descendants of the Numidians of ancient history. If the representations of their attainments be correct, I anticipate in them a brain developed like the European.

The theory usually advanced to account for these differences of national character is, that they are produced by diversities of soil and climate. But, although these may reasonably be supposed to exert a certain influence, they are altogether inadequate to explain the whole phenomena. We ought ever to bear in mind, that Nature is constant in her operations, and that the same causes invariably produce the same effects. Hence, when we find exceptions in result, without being able to assign differences in causes, we may rest assured that we have not found the true or the only cause, and our diligence ought to be quickened to obtain new light, and not employed in maintaining the sufficiency of that which we possess.

If we survey a map of the world, we shall find nations whose soil is fertile and climate temperate, in a lower degree of improvement than others who are less favored. In Van Dieman's Land and New South Wales a few natives have existed in the most wretched poverty, ignorance, and degradation, in a country which enriches Europeans as fast as they possess it. In America, too, Europeans and native Indians have lived for centuries under the influence of the same physical causes, the former have kept pace in their advances with their brethren in the Old Continent, while the latter, as we have seen, remain stationary in savage ignorance and indolence.

Such differences are not confined to the great continents alone; but different tribes in the same hemisphere seem to possess different native minds, and these remain unchanged through numerous ages. Tacitus describes the Gauls as gay, volatile, and precipitate, prone to rush to action, but without the power of sustaining adversity and the tug of strife; and this is the character of the Celtic portion of the French nation down to the present day. He represents the Britons as cool, considerate, and sedate, possessed of intellectual talent, and says that he prefers their native aptitude to the livelier manners of the Gauls. The same mental qualities characterize the English of the nineteenth century, and they and the French may still be contrasted in similar terms. Tacitus describes the Germans, allowing for their state of civilization, as a bold, prudent, self-denying, and virtuous people, possessed of great force of character; and the same features distinguish them still. The native Irishman, in manners, dispositions, and capacities, is a being widely different from the lowland Scotchman; and although we trace the two nations to the remotest antiquity, the same characteristic differences are found.

These differences between nations living under similar climates, are commonly attributed entirely to the religious and political institutions of the several countries. Presbytery and parish schools, for example, are supposed to have rendered the Scotchman habitually attentive to his own interest, but cautious, thoughtful, and honest; while Popery and Catholic priests have made the Irishman free and generous withal, but precipitate and unreflecting,—ready in the gust of passion to sacrifice his friend, and in the glow of friendship to immolate himself. It is forgotten, that there were ages in which Popery and priests had equal ascendency in all the British isles, and that the Englishman, Irishman, and Scotchman, were beings as specifically distinct then as at present; besides, the more correct, as well as the more profound view, is to regard religious and political institutions, when not forced upon a people by external conquest, as the spontaneous growth of their natural propensities, sentiments, and intellectual faculties. Hierarchies and constitutions do not spring from the ground, but from the minds of men: If we suppose one nation to be gifted with much Wonder and Veneration, and little Conscientiousness, Reflection, and Self-Esteem, and another to possess an endowment exactly the reverse, it is obvious that the first would be naturally prone to superstition in religion, and servility in the state; while the second would, by native instinct, resist all attempts to make them reverence things unholy, and tend constantly towards political institutions, fitted to afford to each individual the gratification of his Self-Esteem in independence, and his Conscientiousness in equality before the law. Those who contend that institutions come first, and that character follows as their effect, are bound to assign a cause for the institutions themselves. If they do not spring from the native mind, and are not forced on the people by conquest, it is difficult to see whence they can originate.

The phrenologist is not satisfied with these commom theories of national character; he has observed that a particular form of brain is the invariable concomitant of particular dispositions and talents, and that this holds in the case of nations as well as of individuals.

In the Phrenological Transactions, an account is given of the Phrenology of Hindostan, by Dr. G. M. Patterson. The

HINDOOS are remarkable for want of force of character, so much so, that a handful of Europeans overcomes in combat, and holds in permanent subjection thousands, nay millions, of that people. Power of mental manifestation bears a proportion to the size of the cerebral organs, and the Hindoo head is small, and the European large, in precise conformity with the different mental characters.* Farther, the Hindoo is distinguished by a great respect for animal life, and absence of cruelty in his dispositions; while, at the same time, he is destitute of fire, and of that energy of mind which overcomes obstacles and gives force to command. The European is precisely the opposite; he lives to a great extent upon animal food, is fierce in his anger, and is characterized by great combative and destructive vigor. The Hindoo skull indicates a manifest deficiency in the organs of Combativeness and Destructiveness; while, in the European, these parts are amply developed. The Hindoo is cunning, timid, and proud; and in him Secretiveness, Cautiousness and Self-Esteem, are large in proportion to the organs last mentioned. In intellect, the Hindoo is more prone to analogical than direct reasoning, is fond of metaphors and comparisons, and little given to discriminating differences; and the organ of Comparison is much larger in his head than those of Causality and Wit. Dr. Patterson states, that these facts are drawn from upwards of three thousand observations; and they are illustrated by a collection of Hindoo skulls, presented by him to the Phrenological Society. These skulls,† twelve in number, and a large addition of skulls of the same nation, acquired by the Society from other quarters, have long been exhibited to public inspection. Mr. Montgomery has called in question the justness of the character

HINDOO.

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* At the end of this section a table of measurements is given of all the skulls mentioned in it.

† I strongly recommend to the reader to inspect the casts of national skulls here referred to. The study of them will make an impression infinitely deeper than any description

assigned to the Hindoos, but his objections have been ably answered by Dr. Corden Thomson.—See Phren. Journ. vol. vi. p. 244. I still regard the statements made by Dr. Patterson to be correct.

CHARIB.

The Society's collection contains other specimens of national developement of brain equally interesting. The CHARIB skulls present a striking appearance. They are much *larger* than the Hindoo heads, and, in conformity with the principle, that size indicates power, this tribe is the most remarkable, among all the native Americans, for force of character. The Europeans have in vain attempted to subdue them; they have hunted them down like wild beasts, and nearly extirpated them, but failed in every attempt to enslave them in a mass, as the Portuguese and Spaniards did the natives of Mexico and Brazil. Farther, the Charib brain is prodigiously developed in the regions of Combativeness and Destructiveness, in which the Hindoo head is deficient; and the former race is as ferocious as the latter is mild and inoffensive. In the reflecting organs, the Charib is the most deficient of any human beings whose skulls have come under our notice; and he is described as rushing with unbridled violence on present gratification, blind to every consequence, and incapable of tracing the shortest links in the chain of causation. If the ear be taken as a centre, and a line drawn from it to the most prominent part of the forehead of the Charib skulls, and another line be drawn from the same point to the most prominent part of the occiput, it will be found, that by far the largest quantity of the brain is situated behind the ear; or, in other words, that the organs of the animal propensities greatly preponderate over those of the intellectual faculties; if the region above the organ of Cautiousness be measured, the height will be found to be small, compared with the European,—an indication that the organs of the moral sentiments also are deficient in size. The Society possesses casts of five skulls of Charibs, all of which, with individual differences, present a general type characteristic of the whole. In St. Thomas' Hospital, London, I have seen the original of one of these casts:—the whole were procured by Dr. Spurzheim from authentic skulls, and their genuineness may be relied on. Mr. Sedgewick, Secretary to the Phrenological Society of London, communicated an interesting Essay to the Phrenological Journal (vol. vi. p. 377.) on "the artificial compression of the infant head, by barbarous nations," in which he clearly establishes that the Charib and other Indian tribes flatten the forehead of their children by compression, some of them by means of a small bag of sand, others by confinement of the infant head between two small pieces of wood, one placed before and the other behind, both being firmly bound together; and others, on the northwest coast, by a board in the cradle brought over the forehead, and tied firmly down upon the head of the infant. The child is seldom taken from the cradle, and the compression is continued till it is able to walk. With the *cause* of the flatness, however, I am not at present interested, the only point I wish to establish being the *fact* of concomitance between the deficiency of organization and deficiency of mental ability, which is so certain as to be altogether indisputable.

The NEW HOLLAND skull rises a little above the Charib, but indicates a lamentable deficiency in the regions of the intellectual and moral organs. The organs of Number, Constructiveness, Reflection, and Ideality, are particularly deficient, while those of the animal propensities are fully developed. The Society possesses casts of two skulls of natives of New Holland, and Sir George S. Mackenzie has presented to it the actual skulls of a chief and a female of that country; and the whole correspond, in a striking manner, in their general features.

If these skulls were put into the hands of a phrenologist to state the dispositions which they indicate, he would say that there ought to be considerable energy and determination, but extreme ignorance, rudeness, and grovelling lowness of character. Every [illegible] ture, and the constructive arts in [illegible] Ideality is so small, that sentiments of [illegible] will scarcely be at all experienced. The [illegible] will perceive how far this skull and that of [illegible] of the European in the organs of Reflection, [illegible] Constructiveness.

[illegible] following account of the actual condition of the natives of [illegible] Holland, is given in Smellie's Philosophy of Natural Histo[illegible] it would appear that they pull out the two fore-teeth of the [illegible] jaw; for in neither sex, nor at any particular period of life, [illegible] these teeth to be seen.* They are beardless; their visage is [illegible] without exhibiting a single agreeable feature; their hair is [illegible] short, and crisped; and their skin is equally black as that of [illegible] Guinea Negroes. Their only clothing consists of a piece of the bark of a tree tied round their waist, with a handful of long herbs placed in the middle. *They erect no houses*; and, without any covering, they sleep on the ground. Men, women, and children, associate promiscuously to the number of 20 or 30. A small fish, which they catch in reservoirs made with stones in arms of the sea, constitutes their chief nourishment; and with bread, and every species of grain, they are totally unacquainted." † I select this description on account of its brevity.—Smellie refers to Dampier as his authority.

Captain Cook was the first who explored the eastern coast of New Holland, of the natives of which he gives the following account: "They appeared to have no fixed habitations; for we saw nothing like a town or a village in the whole country. Their houses, if houses they may be called, seem to be formed with less art and industry than any we had seen, except the wretched hovels at Terra del Fuego, and in some respects they are inferior even to them. At Botany Bay, where they were best, they were just high enough for a man to sit upright in, but not large enough for him to extend himself in his whole length in any direction: they are built with pliable rods, about as thick as a man's finger, in the form of an oven, by sticking the two ends into the ground, and then covering them with palm-leaves and broad pieces of bark: the door is nothing but a large hole at one end, opposite to which the fire is made. Under these houses or sheds they sleep, coiled up with their heels to their head; and in this position one of them will hold three or four persons."—"The only furniture belonging to these houses that fell under our observation, is a kind of oblong vessel made of bark," which was supposed to be used as a bucket for carrying water. Captain Cook adds, that "both sexes go stark naked;" that he saw neither nets nor vessels in which water might be boiled. "The canoes of New Holland," he continues, "are as mean and rude as the houses," being, on the southern parts of the coast, "nothing more than a piece of bark, about twelve feet long, tied together at the ends, and kept open in the middle by small bows of wood;" and in the northern parts, merely the hollow trunk of a tree. These were the inhabitants of a different part of New Holland from that visited by Dampier. Their want of curiosity also was very remarkable, and forms a good contrast with the wonder with which some American tribes regarded the Spaniards and their ships on their first appearance in the new world. Captain Cook relates, that of about twenty natives who were seen on the shore, not far from Botany Bay, "not one was observed to stop and look towards us, but they trudged along, to all appearance without the least emotion of curiosity or surprise, though it is impossible they should not have seen the ship by a casual glance, as they walked along the shore; and though she must, with respect to every other object they had yet seen, have been little less stupendous and unaccountable than a floating mountain, with all its woods, would have been to us." *

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* These teeth are wanting in the chief's skull presented by Sir George S Mackenzie to the Society.

† Vol. ii. p. 84.

In Malthus's Essay on Population,† will be found a character of the New Hollanders, founded on Cook's Narrative and on Collin's "Account of New South Wales," coinciding in all important particulars with the foregoing.

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* See Cook's First Voyage, b. ii. ch. ii. and vi.

† Book i. chap. 3.

The **NEW ZEALANDER** rises above the new Hollander. The size of the brain is pretty nearly the same as that of the European, but the great predominance of size is in the region of the propensities. The anterior lobe is larger than in the New Hollander, but less than in the European, while the coronal region above Cautiousness is broad, but extremely shallow. The character which this head indicates is one of considerable energy, cruel, cunning, cautious, vain, and decidedly deficient in Benevolence, Veneration, and Conscientiousness. Mr. Earle describes them as active, shrewd and intelligent. They toil by hundreds in their forests, hewing wood for the European dock-yards established on their coast. They cultivate potatoes and Indian corn, imitate the houses built by the English, decorate the interiors of them with paintings and carvings not inferior to what is found among some of the older labors of the Egyptians. The chiefs do not consider labor disgraceful. They are exceedingly handsome. They murdered their female infants in great numbers until they discovered that Europeans prized their young women. They roast and eat not only their enemies, but occasionally one of themselves. Mr. Earle saw a female slave killed for running away, roasted and eaten.—"Nine Months' Residence in New Zealand in 1827," p. 10. 243.

The skull of a **NORTH AMERICAN INDIAN** is high from the ear upward, and short from the front to the back. The forehead is not largely developed, while Firmness, Secretiveness, and Cautiousness, are very prominently enlarged; as is also Destructiveness. Adhesiveness and Concentrativeness, especially the latter, are small. The Society possesses only two casts of skulls of this tribe, and their general form and appearance are alike. It is impossible to draw any safe inference from so limited a collection, yet it may be worth while to notice their character, for the purpose of inducing travellers to attend to their cerebral developement in their future descriptions.

"To flee from an adversary that is on his guard, and to avoid a contest where he cannot contend without risk to his own person, and consequently to his community, is the point of honor with the American. The odds of ten to one are necessary to warrant an attack on a person who is armed and prepared to resist, and even then, each is afraid of being the first to advance. The great object of the most renowed warrior is, by every art of cunning and deceit, by every mode of stratagem and surprise that his invention can suggest, to weaken and destroy the tribes of his enemies with the least possible loss to his own. To meet an enemy on equal terms is regarded as extreme folly. To fall in battle, instead of being reckoned an honorable death, is a misfortune which subjects the memory of the warrior to the imputation of rashness and imprudence. But to lie in wait day after day, till he can rush upon his prey, when most secure and least able to resist him; to steal in the dead of night upon his enemies, set fire to their huts, and massacre the inhabitants, as they flee naked and defenceless from the flames, are deeds of glory, which will be of deathless memory in the breasts of his grateful countrymen."*

To this description it may be added, that these savages possess insuperable determination: when the fate of war has placed one of them in the power of his enemies, he knows that the most dreadful tortures await him; but the point of honor then is to set the malignity of his tormentors at defiance, and to surpass in his powers of endurance the utmost limits of their barbarous inflictions of pain. The American savage, besides, as already noticed, has rarely been found a member of regular society, but has continued a wanderer since the sun first rose upon his deserts till the present day. Even contact with European settlers, surrounded by arts and enlightened by intelligence, has scarcely communicated one spark of energy to this miserable race. When Europe has been conquered, the victorious and the vanquished have in a few ages amalgamated together, been blended into one, and have formed at last a single and united people. The native Americans have, on the contrary, uniformly receded before the Europeans; and even in those states of the Union in which their privileges are equal with those of the whites, they rarely rise above the dignity of a barber or a shoeblack

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* Malthus on Pop. B. i. ch. iv.

The exact coincidence betwixt the developement of these skulls and the character of this people would lead us to suppose that they represent the national shape. The general size is greatly inferior to that of the average European head; indicating inferiority in natural mental power. The combination of Destructiveness, Secretiveness, Cautiousness and Firmness corresponds remarkably with their timid, cunning, persevering ferocity; while their deficient sentiments, Concentrativeness, and Adhesiveness, would account for the looseness of their social and patriotic relations. A similar description of the American Indians is given by Timothy Flint, in his 'Recollections of Ten Years' Residence and Journeyings in the Valley of the Mississippi.' "I have conversed," says he, "with many travellers that have been over the Stony mountains into the great missionary settlements of St. Peter and St. Paul. These travellers, and some of them were professed Catholics, unite in affirming that the converts will escape from the mission, whenever it is in their power, fly into their native deserts, and resume at once their old modes of life. The vast empire of the Jesuits in Paraguay has all passed away, and we are told, the descendants of their convert Indians are no way distinguished from the other savages. It strikes me that Christianity is the religion of civilized man, that the savages must first be civilized; and as there is little hope that the present generation of Indians can be well civilized, there is but little more that they will be Christianized."—p. 145.

The head of the BRAZIL INDIAN bears some resemblance to the former. The deficiency in Size is the same, indicating natural inferiority of mind, and the combination of organs is similar, only Firmness is not so great, and Concentrativeness, and Philoprogenitiveness are moderate. The dimensions are annexed in the Table.

It is known that the Jesuits attempted to civilize a number of these tribes, and that, by humane and intelligent treatment, they acquired a great moral ascendency over them, induced them to settle, and established something like order and the arts of social life among them. If their brains had possessed the European developement, we should have been led to expect that the seeds of improvement sown, and fostered for years by a protecting hand, would have sprung up, flourished vigorously, and produced an abundant harvest of permanent civilization; but the picture is precisely the reverse.—" It must be admitted," (says the reviewer of Koster's Travels in Brazil,) " that Mr. Koster's representation of the Indians is by no means favorable; and the opinions which he expresses are of the more weight, because, as his feelings and principles are of the best kind, they lead him always to judge charitably, and to look forward with Hope. Infinitely ameliorated as the condition of the Indians has been, theirs is still no very desirable state of existence;—they are always regarded as children, and not always treated as they were by the Jesuits, with paternal kindness. But when they escape they show little capability of acting for themselves, and an evident tendency (as if instinctive) to return to a wandering and savage life;—it does not arise from any feeling connected with the love of their ancestors, or a tradition of their free state; they do not appear to know that their ancestors had been slaves, much less would any knowledge be preserved of their anterior state. The Indian who has escaped from control scarcely ever plants for himself,—if he does he sells the growing crop for half its value, and removes to some other district; fishing and hunting are his favorite pursuits, and he is never stationary for any length of time, unless it be near a lake or a rivulet." The strangest and worst part of their character is their want of natural affection,—an old charge against them, which Mr. Koster's unexceptionable testimony confirms. " They appear," he says, " to be less anxious for the life and welfare of their children, than any other race of men who inhabit that country."

These observations present the most fertile field of speculation to the phrenologists. The case of the Brazil Indians shows a deficiency in size compared with the European; and hence it corresponds with the fact, that these Indians are regarded and treated as children, that they are destitute of foresight, and that degree of steadiness of purpose which pursues a remote advantage through numerous intervening obstacles. An Individual is treated as a child in the general case, not out of perversity in his parents or guardians, but because his inferiority in intellectual power is felt both by him and them, although this may not be stated in so many words as the reason of his being subjected to guidance. When strength of mind appears, we are constrained, by the very laws of our constitution, to treat the possessor with respect, however infantine in bodily stature, or limited in point of age. Were the Indians, therefore, equal in their natural energies to Europeans, they would soon, by dint of this mental power, acquire their knowledge and accomplishments, and instead of being their slaves, would become their rivals.

These Indians, however, have derived some improvement from education, although it has not supplied the defect of native energy. "If education has hitherto done little in implanting good qualities, it has done much in eradicating evil ones. They were among the fiercest and most revengeful of the human race; they are now quiet and inoffensive, rarely committing murder, (in a country where murder is accounted venial, and generally obtains impunity, if not applause;) and even those who are dishonest confine themselves to pilfering."

Mr. Koster draws the following comparison between the Negro and the Brazil Indian:—"The Negro character," says he, "is more decided; it is worse, but it is also better."—"The Indian seems to be without energy or exertion, equally incapable of great evil or of great good. Rich mulattoes and negroes are not uncommon; there is no instance of a wealthy Indian, nor did he ever see an Indian mechanic. The priesthood is open to them, but to little purpose. Mr. Koster heard of only two Indians who were ordained as priests, and both died of excessive drinking."

It would be interesting to know whether the native Mexican brain is better developed, for a rude form of society existed there before the European conquest.

The skull of the NEGRO evidently rises in the scale of developement of the moral and intellectual organs: the forehead is higher, and the organs of the sentiments bear a larger proportion to those of the propensities, than in the New Hollander. The organs of Philoprogenitiveness and Concentrativeness are largely developed; the former of which produces the love of children, and the latter that concentration of mind which is favorable to settled and sedentary employments. The organs of Veneration and Hope, also, are considerable in size. The greatest deficiencies lie in Conscientiousness, Cautiousness, Ideality, and Reflection. The dimensions of this skull are given in the table. Timothy Flint says, "The negro, easily excitable, in the highest degree susceptible of all the passions, is more especially so of the mind and gentle affections. To the Indian, stern, silent, moody, ruminating existence seems a burden. To the Negro, remove only pain and hunger, it is naturally a state of enjoyment. As soon as his toils are for a moment suspended he sings, he seizes his fiddle, he dances."

The different tribes which inhabit Africa present very different appearances in point of civilization; but none of them have made so great a progress as the European nations. I have been informed by persons who have been long resident in the West India Islands, that great differences are observed in the natural talents of the Negroes, according to the provinces from which they have been brought. Some parts of Africa yield persons capable of becoming excellent operative mechanics; others, clerks and accountants; and some mere laborers, incapable of any intellectual attainment. It would be extremely interesting to learn in what respect they differ in the forms of the heads.

Some nations of Africa greatly surpass others in energy of [illegible] and [illegible] soil. "The Caffres are entirely black, [illegible] the Negro features. In the form of their skull [illegible] the most perfect Europeans." This [illegible] on account of their constant [illegible]. Although their [illegible] and indeed [illegible]. Marriage is [illegible] by [illegible]. The [illegible] are represented as a [illegible], gentle, and peaceable [illegible] in their manners; yet they [illegible] in war as fiercely as all other [illegible].—Mr. [illegible], during the course of religious instruction, [illegible]. Of what [illegible] was [illegible] inhabiting expeditions."* Mr. Bowdich gives an account of the Ashantees, by which it appears that they display great activity and considerable ingenuity of mind; but that they are governed by the most ferocious dispositions and the grossest superstition. The descriptions given by a variety of travellers of [illegible], and of the [illegible] upon the Niger [illegible]; if they can be at all depended upon, [illegible] considerable degree of moral and some capacity for the social state, and raise the Africans decidedly above the native Americans. All these facts coincide with the observations which [illegible] in examining their different skulls.

The [illegible] of the African tribes; they are extremely superstitious. Their purchase fetishes, or charms, at a high price, and believe them to be sure preservatives against all the evils of life. This character corresponds with the development which we observe in the Negro skulls; for they exhibit much Hope, Veneration, and Wonder, with comparatively little reflecting power. Their deficient Causality incapacitates them for tracing the relation of cause and effect; and their great Veneration, Hope, and Wonder, render them prone to credulity, to regard with profound admiration and respect any object represented as possessing supernatural power.

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* See also Murray's Historical Account of Discoveries and Travels in Africa, vol. ii. pp. [illegible].

The heads of the **SANDWICH ISLANDERS** are under rather than equal to the average size of the European head; and the race certainly does not indicate so high a natural character as the European, although closely approaching to it. The Phrenological Society possesses five skulls of the Sandwich Islanders. They are characterized by the long form of the European — the Caucasian variety of Blumenbach; and by the greater proportion being before than behind the external orifice of the ear, indicating the predominance of intellectual over animal endowment. This is remarkable particularly in two of the skulls. The coronal region is broad and tolerably well developed, but not equal in height above Cautiousness and Causality to the European. The anterior lobe, manifesting the intellect, is pretty well developed, being decidedly larger than that of the Negro, American Indians, and New Hollanders. All of them have a considerable portion of Eventuality, a faculty which Dr. Gall long ago denominated *Educability*, and which must greatly expedite civilization. Three of the skulls are decidedly ancient, and having been obtained from the older *Morais* or burial-places, probably afford correct specimens of the heads of the aboriginal inhabitants, before the islands were discovered by Captain Cook. This navigator found this race very superior to most of the other savage tribes which he visited; and the advance which they have since made towards civilization, is evinced by their respectful reception of the bodies of their king and queen, who had died in London, the appearance of the chiefs in English mourning, the procession to the church, and the high improvement conspicuous in the whole community, — circumstances which have been noticed by the public papers, and are given more in detail in a narrative of the voyage of the Blonde Frigate to the Sandwich Islands, published in the year 1826.*

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* A more particular account of the Sandwich Islanders will be found in the Phrenological Journal, vol. iii. p. 421.

Swiss Skull.

The brains of the different EUROPEAN NATIONS differ considerably from each other, but a common type characterizes them all, and distinguishes them from those now described. They are decidedly larger than the Hindoo, American Indian, and Negro heads; and this indicates superior force of mental character. The portion before the ear, connected with the intellectual faculties, and the coronal region, or the organs of the moral sentiments, are more amply developed in proportion to the base and posterior inferior parts of the brain, the organs of the animal propensities. In short, they indicate a higher natural power of reflection, and a greater natural tendency to justice, benevolence, veneration, and refinement, than the others. The organs in which the European brain in an especial degree excels, are, Ideality, Conscientiousness, Causality, and Wit. The organs of these faculties are almost invariably small in barbarous and savage tribes. The European skull belongs to the Caucasian variety of Blumenbach, which he considers as the most beautiful and perfect of all the national crania in the world; and in this point he and the phrenologists agree. The cut represents a Swiss skull, which is not large, but very favorably developed in the region of the moral sentiments. If the space above the asterisks, Cautiousness and Causality, be compared with the same region in the New Zealander or New Hollander, a very marked inferiority in the latter will be observed.

The ANCIENT EGYPTIANS appear, from the stupendous monuments of art and science left behind them, to have been a highly intelligent and civilized people: and it is a striking fact, that the skulls of ancient mummies are found almost invariably to belong to the same class as those of modern Europeans. In the Society's collection, there are two skulls of mummies, five casts of the skulls of mummies, and I have seen or obtained accurate descriptions of the skulls of half a dozen more;—full size, large developement before the ear, and broad coronal region, characterize them all; indicating the elements of a superior character.

The Society possesses also several skulls of **ANCIENT GREEKS**. They are large, and exhibit a favorable developement of the coronal region and intellect, combined with large organs of the propensities. In particular, the organs of Constructiveness and Ideality are large, and in this respect, they form as striking a contrast to the skulls of the New Hollanders, as the hovels of the latter do to the temples and works of art of the Greeks.

These facts appear to indicate, that when a nation is independent, and left at liberty to follow the bent of their own judgment and dispositions, their institutions spring from the peculiar mental constitution which they have received from nature, and that this constitution is in exact accordance with the developement of their brains. Climate and other external causes modify to some extent the effects of natural endowment, but the distinguishing features of each people seem to bear a more direct and uniform relation to the size and form of their brain, than to those adventitious circumstances. Where a people is subjugated by a foreign power, as the Greeks by the Turks, and the Italians by the Austrians, the national character has no adequate opportunity of unfolding its peculiarities; and hence, if this circumstance is overlooked, the same race may seem to present different characteristics at different periods of their history. The modern Greeks, it was lately said, no more resemble their ancestors than the Hindoos the Europeans; and this was urged as an insuperable objection against Phrenology. Now, however, when the Turkish yoke is loosened so as to allow the native qualities to shoot, we see the same force of character, the same deliberate and determined heroism, the same capacity for stratagem in war, with all the fickleness and proneness to dissension, the same ascendency of passion which distinguished the Greeks in the days of Pericles, reappearing in their descendants. Many millions of Hindoos, Africans, and American Indians, have been for ages independent of a foreign yoke, and never displayed qualities such as those exhibited by independent Europeans.

The effects of temperament are distinguishable in national skulls. The grain of the New Holland skulls is extremely rough and coarse; that of the Hindoos, fine, smooth, and compact, more closely resembling ivory; the Swiss skulls are open and soft in the grain, while the Greek are closer and finer. There would be a corresponding quality of brain in the individuals, which would influence the mental character.

The Phrenological Society have more specimens of national skulls than are here noticed. They afford interesting materials for philosophical reflection, but the great length to which this work has extended, compels me to omit the notice of them. (See p. 583.)

These measurements do not represent the size of any organs in particular, for the reasons stated on p. 90. They are intended to indicate whether the skulls are large or small. They do not, however, accomplish this object successfully, in consequence of the impossibility of measuring irregular spheres by diameters. They are therefore indications merely of the length of the particular lines stated in the different skulls; from which a rough estimate of the relative dimensions of the skulls may be formed. A scientific mode of measurement is much wanted. These measurements are taken from individual skulls, and cannot be given as an exact statement of the average of the different national crania. They are, however, an approximation to truth, and are sufficient to show the interest of the investigation. The collection is still too limited to enable us to draw average results. The Negro skull is a very favorable specimen, and the Swiss is perhaps under the average.

The real characters of foreign nations will never be philosophically delineated, until travellers shall describe their temperaments, and the size and combinations of their brains. Blumenbach's extensive work on National Crania is destitute of moral interest, owing to his omission of all notice of the characters of the nations whose heads he represents. Donations of national skulls are highly esteemed by the Phrenological Society.

MEASUREMENTS OF NATIONAL SKULLS.

	From Philoprogenitiveness to Individuality.	From Concentrativeness to Comparison.	From Ear to Philoprogenitiveness.	From Ear to Individuality.	From Ear to Firmness.	From Ear to Benevolence.	From Destructiveness to Destructiveness.	From Secretiveness to Secretiveness.	From Cautiousness to Cautiousness.	From Ideality to Ideality.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
Hindoo,................	$6\frac{5}{8}$	$6\frac{1}{8}$	$3\frac{3}{8}$	4	$4\frac{7}{8}$	$5\frac{1}{8}$	$4\frac{4}{8}$	5	$5\frac{1}{8}$	$4\frac{1}{8}$
Charib,.................	$7\frac{2}{8}$	$5\frac{2}{8}$	$4\frac{7}{8}$	$4\frac{3}{8}$	$5\frac{1}{8}$	$4\frac{2}{8}$	$5\frac{6}{8}$	$5\frac{7}{8}$	$5\frac{6}{8}$	$4\frac{7}{8}$
New Hollander,.......	$7\frac{2}{8}$	$5\frac{7}{8}$	5	$4\frac{2}{8}$	$5\frac{4}{8}$	$4\frac{3}{8}$	5	5	$4\frac{2}{8}$	4
Negro,...................	$7\frac{4}{8}$	7	$4\frac{2}{8}$	$4\frac{5}{8}$	$5\frac{1}{8}$	$5\frac{1}{10}$	$4\frac{4}{8}$	5	$5\frac{3}{8}$	$4\frac{4}{8}$
American Indian,.....	$6\frac{2}{8}$	5	$3\frac{6}{8}$	$4\frac{7}{8}$	$5\frac{2}{8}$	$5\frac{2}{8}$	$5\frac{3}{8}$	$5\frac{2}{8}$	$5\frac{2}{8}$	$4\frac{3}{8}$
Brazil Indian,..........	$6\frac{3}{8}$	$5\frac{7}{8}$	$3\frac{6}{8}$	$4\frac{2}{8}$	$4\frac{6}{8}$	$4\frac{7}{8}$	$4\frac{6}{8}$	$4\frac{7}{8}$	5	$4\frac{3}{8}$
Swiss,...................	$6\frac{7}{8}$	$6\frac{2}{8}$	4	$4\frac{3}{8}$	$5\frac{1}{8}$	$5\frac{2}{8}$	$5\frac{3}{8}$	$5\frac{7}{8}$	$5\frac{4}{8}$	$4\frac{6}{8}$
Ancient Greek,........	7	$6\frac{2}{8}$	$4\frac{1}{8}$	$4\frac{6}{8}$	$5\frac{3}{8}$	$5\frac{4}{8}$	$5\frac{4}{8}$	$5\frac{5}{8}$	$5\frac{4}{8}$	$4\frac{6}{8}$
Sandwich Islander,....	7	$6\frac{3}{8}$	4	$4\frac{3}{8}$	5	$4\frac{7}{8}$	5	$5\frac{3}{8}$	$5\frac{3}{8}$	$4\frac{1}{8}$
Mummy,................	$7\frac{2}{8}$	$6\frac{5}{8}$	$4\frac{5}{8}$	$4\frac{6}{8}$	$5\frac{2}{8}$	$5\frac{2}{8}$	$5\frac{4}{8}$	$5\frac{7}{8}$	$5\frac{7}{8}$	$4\frac{7}{8}$

OBJECTIONS TO PHRENOLOGY CONSIDERED.

Having now considered the elements of Phrenology, I shall notice briefly some objections which have been urged against it. These shall be given, as nearly as possible, in the words of actual opponents, and an answer shall be subjoined.

Objection.—The idea of ascribing different faculties to different parts of the brain is not new. Many authors did so before Dr. Gall; but their systems have fallen into disrepute, which proves that the doctrine is not true.

Answer.—Dr. Gall himself has called the attention of philosophers to the fact, that the idea alluded to is very ancient; he has given a history of previous opinions concerning the functions of the brain; and shown, that different functions have been attributed to different parts of it for centuries past, while he has assigned reasons for these ideas falling into oblivion. Dr. Spurzheim in his works does the same; and, in the Phrenological Journal, No. vii. Art. 8, "An Historical Notice of early Opinions concerning the brain" is given, accompanied with a plate of the head, showing it marked out into different organs in 1562: it is copied on p. 20 of this work. The difference, however, between the *mode of proceeding* of prior authors and that of Dr. Gall, is so great, that different results are accounted for. Former speculators assigned to certain mental faculties local situations in the brain, on account of the supposed aptitude of the place to the faculty. Common sense, for example, was placed in the forehead, because it was near the eyes and nose; while memory was lodged in the cerebellum, because it lay like a store-house behind, to receive and accommodate all kinds of knowledge, till required to be brought forth for use. This was not philosophy. It was the human imagination constructing man, instead of the intellect observing how the Creator had constituted him. Dr. Gall acted on different principles. He did not assume any mental faculties, and neither did he assign them habitations in the brain according to his own fancy. On the contrary, he *observed*, *first*, the manifestations of mental talents and dispositions; and, *secondly*, The form of brain which accompanied each of these when strong and weak. He simply reported what Nature had done. There is the same difference between his method of proceeding and that of prior authors, as between that of Des Cartes and Newton; and hence it is equally intelligible, why he should be successful in discovering truth, while they invented only ingenious errors.

Objection.—It is ridiculous to suppose that the mind has thirty-five faculties; why not fifty-five? or an hundred and five? Besides, the phrenologists have been continually altering the number.

Answer.—As well may it be said to be absurd, that we should possess exactly five senses; why not ten, or fifteen? The phrenologists deny all responsibility for the number of the faculties. They admit neither fewer, nor a greater number, than they find manifested in nature. Besides, authors on mental philosophy admit as many, and some more, faculties than the phrenologists. Lord Kames, for example, admits twenty of the phrenological faculties; while Mr. Dugald Stewart, in his System, ascribes more faculties to the mind than are enumerated in the phrenological works.* The increase of the number of the phrenological faculties is easily accounted for. It has invariably been stated, that the functions of certain portions of the brain remain to be discovered; and, in proportion as this discovery proceeds, the list of mental powers will necessarily be augmented.

Objection.—"On opening the skull, and examining the brain towards the surface, where the organs are said to be situated, it seems to require no small share of creative fancy, to see any thing more than a number of almost similar convolutions, all composed of cineritious and medullary substance, very nearly in the same proportions, and all exhibiting as little difference in their form and structure, as the convolutions of the intestine." "No phrenologist has ever yet observed the supposed lines of distinction between them; and no phrenologist, therefore, has ventured, in the course of his dissections, to divide a hemisphere of the brain accurately into any such number of well marked and specific organs."

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* See answer to Mr. Jeffrey in Phren. Jour. vol. iv. p. 30.

This objection was urged by the late Dr. John Barclay, and is answered at full length by Dr. A. Combe, in the Phrenological Transactions. A summary only of his observations can be introduced here. *First*, Although the objection were literally true, it is not relevant; because it is an admitted principle of physiology, that the form and structure of an organ are not sufficient to convey an idea of its functions; no man who saw an eye, an ear, or a nostril, for the first time (supposing it were possible for a man to be so situated), could, merely by looking at it, infer its uses. The most expert anatomist had looked frequently and long upon a bundle of nervous fibres, enclosed in a common sheath, without discovering that one set of them was the organ of voluntary motion, and another that of feeling; on the contrary, from their similarity of appearance, these nerves had, for ages, been regarded as possessing similar functions. Nevertheless, Mr. C. Bell and Magendie have demonstrated, by experiment, that they possess the distinct functions of feeling and motion. Mr. Bell has, more recently, proved, that another nerve, the use of which nobody had conjectured from its structure, serves to convey to the brain intimation of the state of the muscles, so that there is now evidence of the muscular system being supplied with three distinct sets of nerves, having separate functions, which was never conjectured from appearances. These discoveries are discussed on p. 51. It may therefore competently be proved, by observation, that different parts of the brain have distinct functions, although it were true that no difference of structure could be perceived.

But, *2dly*, it is not the fact that difference of appearance is not discoverable. It is easy to distinguish the anterior, the middle, and posterior lobes of the human brain from each other; and, were they shown separately to a skilful phrenological anatomist, he would never take one for the other. The mental manifestations are so different, according as one or other of these lobes predominate in size, that there is even in this case ample room for establishing the fundamental proposition, that different faculties are connected with different parts of the brain. Farther, many of the organs differ so decidedly in appearance, that they could be pointed out by it alone. Dr. Spurzheim says, that he "should never confound the organ of *Amativeness* with that of *Philoprogenitiveness*; or *Philoprogenitiveness* with that of *Secretiveness*; or the organ of the *desire to acquire* with that of *Benevolence* or *Veneration*;" and, after having seen Dr. Spurzheim's dissections of the brain, I bear my humble testimony to the truth of this assertion. Even an ordinary observer, who takes a few good casts of the brain in his hand, may satisfy himself that the anterior lobe, for example, uniformly presents convolutions different in appearance, direction, and size from those of the middle lobe; while the latter, towards the coronal surface, uniformly presents convolutions differing in appearance and direction from those of the posterior lobe; and, above all, the cerebellum, or organ of *Amativeness*, is not only widely different in structure, but is separated by a strong membrane from all other organs, and can never be mistaken for any of them. Difference of appearance, therefore, being absolutely demonstrable, there is much better reason on the side of the phrenologists for presuming difference of function, than on that of the opponents for maintaining unity.

3dly, It is admitted that the organs are not perceived to be separated in the brain by strong lines of demarcation; but those persons who have either seen Dr. Spurzheim dissect the brain, or have attended minutely to its impressions on the skull, will support me in testifying, that the *forms* of the organs are distinguishable, and that the mapping out is founded in nature. To bring this to the test, the student has only to observe the appearance of any particular organ in a state of large developement, the surrounding organs being small; the *form* will then be distinctly visible. This subject is discussed at more length on p. 86.

Objection.—All parts of the brain have been injured or destroyed without the mental faculties being affected.

Answer.—The assertion is denied: There is no philosophical evidence for it. The subject is discussed at length by Dr. A. Combe, in the Phrenological Transactions, and in a subsequent part of this work. The objection is now generally abandoned by persons who have considered the cases, with the answers to them.

Objection.—The world has gone on well enough with the philosophy of mind it already possesses, which, besides, is consecrated by great and venerable names, while Phrenology has neither symmetry of structure, beauty of arrangement, nor the suffrages of the learned to recommend it. Its votaries are all third-rate men—persons without scientific or philosophical reputations. They are not entitled therefore, to challenge the regard of those who have higher studies to occupy their attention. They complain that only ridicule and abuse are directed against them, and that no one ventures to challenge their principles or refute their facts; but they do not yet stand high enough in public esteem to give them a right to expect any other treatment.

Answer.—The world has *not* gone on well enough without Phrenology. A fierce and universal conflict of opinions on many important subjects connected with mind is maintained, which cannot be satisfactorily settled till the true philosophy of man shall be discovered and understood. Education and social institutions also rest in many respects, on imperfect foundations, in consequence of this ignorance; and at the present moment mankind require nothing more urgently than a sound, practical, and rational system of mental philosophy: moreover Phrenology being a new science, it follows that men who possess reputation in physiology or mental philosophy would appear to lose rather than gain renown, were they to confess their present ignorance of the functions of the brain and the philosophy of mind, which is a necessary prelude to their adoption of Phrenology; and the subject does not lie directly in the department of other scientific men. In this manner it happens, oddly enough, that those who are most directly called upon by their situation to examine the science, are precisely those to whom its triumph would prove most humiliating. Locke humorously observes on a similar occasion, "Would it not be an insufferable thing for a learned professor, and that which his scarlet would blush at, to have his authority of forty years standing, wrought out of hard rock, Greek and Latin, with no small expense of time and candle, and confirmed by general tradition, and a reverend beard, in an instant overturned by an upstart novelist? Can any one expect that he should be made to confess, that what he taught his scholars thirty years ago was all error and mistake, and that he sold them hard words at a very dear rate? What probabilities, I say, are sufficient to prevail in such a case? And who ever, by the most cogent arguments, will be prevailed with to disrobe himself at once of all his old opinions and pretences to knowledge and learning, which with hard study he hath all his time been laboring for, and turn himself out stark-naked in quest of fresh notions? All the arguments that can be used will be as little able to prevail as the wind did with the traveller to part with his cloak, which he held only the faster."* Human nature is the same now as in the days of Locke; and it is extremely seldom that new and important philosophical discoveries are embraced by men whose minds have long been occupied by established notions. The following letter from Dr. Joseph Black, the late celebrated professor of Chemistry at Edinburgh, to Lavoisier, not only shows how difficult it is to embrace new fundamental doctrines, but also holds out a lesson of candor which some of the opponents of Phrenology would not be disgraced by imitating:—"For thirty years," says Dr. Black, "I taught the doctrines of phlogiston; ten years of which time I combated your discoveries. That barrier to every improvement, prejudice, required ten whole years—a second siege of Troy —before it could be subdued. I now see, clear as the noon-day, the truth of the new system. I have begun to teach it; and the young students, having no prejudices to overcome, are every one of them delighted with its simplicity and truth. Your new terms are already familiar to them."†

There is, however, another answer to the present objection.

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* Book iv. c. 20, sect. 11.

† Edgeworth on Professional Education, p. 235.

cation with external nature, and maintains that this fact does not necessarily lead to materialism. In this I agree with him; but I cannot perceive how it should lead nearer to this result, to hold that each faculty manifests itself by a particular organ, than to believe that the whole mind acts on external objects by means of the whole body, or the whole brain. In short, in whatever point of view the system is regarded, whether as true or false, the objection of materialism is futile and unphilosophical; and one must regret that it should have been brought forward in the name of religion, because every imbecile and unfounded attack against philosophy, made in this sacred name, tends to diminish the respect with which it ought always to be invested.

The question of materialism itself, however, as a point of abstract discussion, has of late excited considerable attention; and I shall offer a few remarks upon its general merits. In entering on the subject, it is proper to take a view of the nature and extent of the point in dispute, and of the real effect of our decision upon it. The question then is, Whether the *substance* of which the thinking principle is composed be matter or spirit? And the effect of our decision, let it be observed, is not to *alter the nature of that substance*, whatever it is, but merely to adopt an opinion consonant with, or adverse to, a fact in nature over which we have no control. Mind, with all its faculties and functions, has existed since the creation, and will exist till the human race becomes extinct, and no opinion of man, concerning the cause of its phenomena, can have the least influence over that cause itself. The mind is invested by nature with all its properties and essences, and these it will possess, and manifest, and maintain, let men think, and speak, and write what they will, concerning its substance. If the Author of Nature has invested the mind with the quality of endless existence, it will, to a certainty, flourish in immortal youth, in spite of every appearance of premature decay. If, on the other hand, Nature has limited its existence to this passing scene, and decreed that it shall perish for ever when the animating principle passes from the body, then all our conjectures, arguments, discussions, and assertions, respecting its immortality, will not add one assertion, that no men of note have embraced Phrenology, is not supported by fact. In the New Monthly Magazine for January, 1823, it is said, "There are many men here (Paris) amongst the most eminent for their medical and physiological knowledge, who, though differing widely upon other scientific topics, yet agree in saying, that there is much not only of probability, *but of truth*, in the system of Gall." Professor Ucelli of Florence has recently sacrificed his academical chair for Phrenology. Besides, the writings of the phrenologists will bear a comparison in point of skill, extent of information, correctness of logic, and profundity of thought, with those of the most eminent of their opponents.

Objection.—All the disciples of Phrenology are persons ignorant of anatomy and physiology. They delude lawyers, divines, and merchants, who know nothing about the brain; but all medical men, and especially teachers of anatomy, are so well aware of the fallacy of their doctrines, that no impression is made on them. They laugh at the discoveries as dreams.

Answer.—This objection, like many others, is remarkable more for boldness than truth. For my own part, before adopting Phrenology, I saw Dr. Barclay, and other anatomical professors, dissect the brain repeatedly, and heard them declare its functions to be an enigma, and acknowledge that their whole information concerning it consisted of "names without meaning." It is acknowledged, in an article on the Nervous System, in No. 94. of the Edinburgh Review, quoted on p. 42, of this work, that the functions of the brain are unknown to anatomists, and that their mode of dissecting it is absurd. This circumstance, therefore, puts the whole faculty, who have not studied phrenologically, completely out of the field as authorities. The *fact*, however, is the very reverse of what is stated in the foregoing objection. Drs. Gall and Spurzheim are now pretty generally admitted to be admirable anatomists of the brain, even by those who disavow their physiology; and in the list of the Phrenological Society, out of 86 members, there are 13 doctors in medicine, and 11 surgeons, a proportion considerably larger than that of the medical profession what we feel, we discover nothing concerning the nature or essence of the thinking being. We do not feel a spiritual substance stirring within us, and elaborating sentiment and thought; and neither do we feel a *material substance* producing these effects. We are conscious of feelings and emotions, of friendships and attachments, of high conceptions and glorious thoughts; but whether these originate from matter or spirit; whether the first embryo substance of reflection dwelt lowly in the dust, or soared a pure ethereal essence amid the regions of boundless space, before it was constituted a part of us; whether GOD, in creating man, was pleased to invest his material organs with the property of thought, or to infuse into him a portion of immaterial fire;—on all these points Consciousness gives us no information. A great deal of popular delusion, indeed, has been kept alive on this point, by the fact being overlooked, that we are not conscious of the operations of the brain. Men in general, because they are sensible only of thought and feeling, and not of the movements of any material organ performing these acts of the mind, imagine that it is necessarily an immaterial substance, which is thinking and feeling within them; but they are equally unconscious of the contraction and relaxation of the muscles, and they might as well imagine that their legs and arms are moved, not by material organs, but by the direct impulse of spirit, as entertain the supposition in question. In short, the truly philosophical conclusion is, that, by means of *consciousness*, we are unable to discover of what substance the thinking principle is composed.

Does *observation*, then, throw a stronger and steadier light upon this long agitated question? The mental organs, while in health, and in the natural state in which their functions are most perfectly performed, are completely hid from inspection. No eye can penetrate the integuments of the head, the tables of the skull, the *dura mater*, and the *pia mater*, to obtain a view of the operations performed in the brain, while the thoughts run high, and the sentiments swell with emotion; and when external injury or disease removes these coverings, the mind does not disport in all the vigor of its healthy action. Besides, even when all these external obstacles to inspection are removed, still it is only the surface of the convolutions which is perceived, and the soul may be enthroned in the long fibres which extend from the surface to the *medulla oblongata*, or thought may be elaborated there, and still evade detection. It will be said, however, that death will solve the question, and allow the whole secrets of the soul to be disclosed; but, alas! when the pulse has ceased to beat, and the lungs no longer play, the brain presents nothing to our contemplation, but an inert mass, of a soft and fibrous texture, in which no thought can be discerned, and no sentiment perceived, and in which also no spirit or immaterial substance can be traced; so that from inspecting it even imagination receives no food for conjecture, as to the presence or absence of an immaterial guest while life and health yet animated its folds.

Observation, therefore, reveals as little in regard to the substance of the mind, as does reflection on consciousness; and as no other modes of arriving at certain knowledge are open to man, the solution of the question appears to be placed completely beyond his reach. In short, to use an observation of Dr. Spurzheim, Nature has given man faculties fitted to observe phenomena as they at present exist, and the relations subsisting between them; but has denied to him powers fitted to discover, as a matter of direct perception, either the beginning, or the end, or the essence, of any thing under the sun; we may amuse our imagination with conjectures, but will never arrive at truth, when we stray into these interdicted regions.

The solution of this question, therefore, is not only unimportant, but it is impossible; and this leads me to observe, that no idea can be more erroneous than that which supposes the dignity and future destiny of man as an immortal being, to depend, of necessity, on the substance of which he is made.

Let us allow to the materialist, for the sake of argument, that the brain is the mind, and that medullary matter thinks,—What then? If, in fact, it does so, it must be the best possible substance for thinking, just because the CREATOR selected it for the purpose, and endowed it with this property. In this argument, the religious constantly forget, that the same OMNIPOTENT hand made the brain that created the mind and the universe itself, and that, in the dedication of every cerebral convolution to its objects, be they thinking or any other process, the Divine Wisdom is as certainly exercised, as in impressing motion on the planets, or infusing light and heat into the sun. If, therefore, *de facto*, GOD has made the brain to think, we may rest assured that it is exquisitely and perfectly adapted for this purpose, and that His objects in creating man will not be defeated, on account of His having chosen a *wrong substance*, out of which to constitute the thinking principle. But what *are* His objects in creating man? This brings us to the jet of the question at once. Mr. Lawrence, it is said, founds no moral doctrine on his opinions regarding the essence of the mind; but other materialists, who make these opinions the foundation of atheism, wish us to believe that the best evidence of the Divine intention in creating the human soul, is to be found by discovering the *substance* of which it is made; and they insinuate, that, if it be constituted of a very refined and dignified material, the conclusion necessarily follows, that it is intended for magnificent destinies, while, if it be composed of a rude and vulgar stuff, it must be intended only to crawl on this filthy world. Here, however, sense and logic equally fail them: for no principle in philosophy is more certain than that *we cannot infer* from a knowledge of the mere substance of any thing for what ends it is fitted. Exhibit to a human being every variety of imaginable essence, and if you allow him to know no more of its properties than he can discover from examining its constituent parts, he will be utterly incapable of telling whether it is calculated to endure for a day, or last to eternity. The materialist, therefore, is not entitled, even from the supposed admission that medullary matter thinks, to conclude that the human being is not immortal and responsible. The true way of discovering for what end man has been created, is to look to the *qualities* with which he has been endowed, trusting that the substance of which he is composed is perfectly suited to the objects of his creation. Now, when we inquire into his qualities, we find the thinking principle in him to differ, not only in *degree*, but in *kind*, from that of the lower animals. The latter have no faculty of justice, to indicate to them that the unrestrained manifestation of Destructiveness or Acquisitiveness is wrong; they have no sentiment of Veneration to prompt them to seek a God whom they may adore; they have no faculty of Hope, pointing out futurity as an object of ceaseless anxiety and contemplation, and leading them to desire a life beyond the grave; and, indeed, the convolutions of the brain, which in man form the organs of these sentiments, appear not to exist in the lower animals. Those organs also, which in man serve to manifest the faculties of Reflection, are, in the lower animals, eminently deficient, and their understanding, in exact correspondence with this fact, is so limited as to be satisfied with little knowledge, and to be insensible to the comprehensive design and glories of creation. Man, then, being endowed with qualities which are denied to the lower creatures, we are entitled, by a legitimate exercise of *reflection*, the subject being beyond the region of the external senses, to conclude, on principles truly philosophic, that he is designed for another and a higher destiny than is to be allotted to them, whatever be the *essence* of his mind.

These principles enable us to dispose of an objection, which was long ago stated by Dr. Barclay, and has since been repeated by many other opponents, and yet is in itself very absurd. Dr. Barclay's hypothesis is that the mind fashions the organs. If it is impossible to discover the *substance* of which the mind is composed, it is equally impracticable to tell whether the faculties determine the size of the organs, or the organs limit the power of the faculties. Some of the difficulties with which Dr. Barclay's notions are beset are the following: If the immaterial mind fashions the organs, then God bestows idiotic minds, insane minds, stupid minds, and viciously disposed minds, on different individuals; and these make bad organs,—a doctrine which appears fully more objectionable than the theory, that the mind itself, in all individuals is perfect; but that the manifestations of its dispositions and powers, in this life, are affected by the state of the organs with which it is connected. On the former supposition human efforts can do nothing to ameliorate the condition of the mind; for the immaterial principle is beyond our reach, and until we modify it no change in the organs can take place. On the latter hypothesis we are encouraged, with hopes of success to do our best; for it assumes that the mind in all individuals is sound, and that the imperfections lie in the organs, which are subject to modification by means of propagation and exercise, in other words by education. According to this view, also, insanity is not a disease of the immaterial principle, but an affection of the organs, which may be cured by medicine.—Phren. Journ. Vol. ii. p. 149.

III. ON THE EFFECTS OF INJURIES OF THE BRAIN ON THE MANIFESTATIONS OF THE MIND.

BY DR. A. COMBE.

Of all the arguments advanced for the subversion of Phrenology, not one has been more frequently or more confidently urged, than that which rests on the alleged fact of the brain having, in various instances, been wounded or destroyed in whole or in part, without in any degree impeding the usual operations of mind. When narrowly examined, however, this objection proves to be at variance with the views of those who maintain it, and completely demonstrative of their ignorance of the principles of the science against which it is directed. "The system of Gall and Spurzheim," it is said, "however ingenious or amusing in theory it may be, is *annihilated* by the commonest reference to fact. Experience has shown us, that a man may live in the *full enjoyment of his intellectual faculties*, although a part of his brain is destroyed by disease. Portions of the brain, various in situation and size, have been found to have been entirely disorganized, yet no *single* power of the mind was *impaired*, even to the very day of the patient's death. It would be difficult to find any one portion of the brain, that has not, in some case or another, been deranged in its structure, without injury to the mind. Certainly, of the parts specified by Gall and Spurzheim, every one has, in its turn, been found wanting, without any deficiency in that *intellectual* faculty which they would represent it either to produce or sustain."* Such are the *ipsissima verba* of a learned and respectable, though prejudiced opponent; and although others might be quoted, who go still farther than he does, I am ready to admit, that, if the statements here recorded were as clearly substantiated as they were sweepingly made, neither the system of philosophy which we advocate, nor any other which acknowledges the necessity of the intervention of a material instrument for the manifestation of the mind, could possibly survive for a day.

At first sight, the foregoing objection appears to be highly plausible and relevant; and coming as it generally does, directly or indirectly, from the members of the medical profession, who, naturally enough, are supposed to be best qualified to judge, it is received by many with implicit confidence, and thus operates upon them with all the force of truth; and, in fact, to those who are alike ignorant of Anatomy and of Phrenology, and who, therefore, have no means of forming an accurate estimate of its force, it does present a very formidable aspect. As, however, to those who are acquainted with both these sciences, and who are consequently better qualified to judge correctly, the very facts upon which the objections are grounded, seem, instead of invalidating the fundamental principles of the new philosophy, to be clearly and unequivocally demonstrative of their truth; it may be useful to state such an abstract of the evidence itself, as shall enable even the unprofessional reader to determine how far it authorizes the inferences which have been deduced from it by our opponents. With this intention, I shall first make some observations on the testimony offered of the alleged integrity of all the mental faculties, in cases of extensive injury of the brain; and then examine anatomically, how far the extent, situation, and nature of the injuries sustained in the cases alluded to, authorize us to infer the partial or total destruction of any individual phrenological organ; and, lastly, I shall offer a few remarks on the possibility of discovering the functions of the brain, from noticing the effects of its injuries,—a mode of proceeding lately recommended from high authority.

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* Rennel on Skepticism, p. 100.

ular study, are agreed either upon the number or nature of the primitive mental powers. Much less, then, can we expect the surgeon, engaged in the hurry of general practice, to be better informed. "Certain crude ideas," says the Edinburgh Reviewer, in his notice of Sir E. Home's paper on the Functions of the Brain, "are attached to the words Intellectual Faculties; *a vague conjecture arises as to the seat and nature of these faculties.*"* How, then, I would ask, can any one certify, even after the most scrupulous attention, that *all* the powers of the mind are retained, when he is ignorant what these powers are? When he is *ignorant*, for instance, whether the propensities of Destructiveness, Acquisitiveness, or Secretiveness exist, and whether the sentiments of Veneration, Hope or Conscientiousness, are primitive emotions. The state of these, and other feelings and propensities, proved by Phrenology to be primitive, is never once alluded to in the history of injuries of the brain; and, consequently, for any thing we are told to the contrary, they, along with their respective organs, might have been entirely wanting, in every one of the cases which are advanced as instances of entire possession of the faculties. The opponents never speak of any except *intellectual* faculties; and in expecting lesion of these powers, when, for instance, it is only the cerebellum, or posterior lobes of the brain, that are diseased, they display at once their own ignorance of the nature and number of the primitive faculties, and their most profound ignorance of the doctrines which they impugn. If any injury occurs in that portion of the brain lying under the most prominent part of the parietal bone, which the phrenologist states to be the organ of Cautiousness, and if we be in doubt as to the accuracy of the function assigned to it, and wish to have our observations confirmed or refuted by the phenomena attending such a case, one would naturally suppose that, as the organs are all double, we would begin by observing, whether the corresponding portion of brain on the opposite side partook in the disorganization or not; and that we would then proceed to investigate the state of that particular faculty, of which these parts constitute the organs, and thus ascertain whether the feeling of Cautiousness ever remained undiminished, where, from the extent of the disease, it ought, according to the ordinary laws of the animal economy, to have been either impaired, or entirely wanting.

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* Edinburgh Review, No. 48, p. 439.

This mode of proceeding, plain and simple as it appears, is not that pursued by the opponents of Phrenology. The opponent does not care, and does not inquire, whether it is one side only, or both sides, which are diseased: he makes no inquiry about the presence or absence of the manifestations of the sentiment of Cautiousness: he proceeds at once to the state of the *intellectual* powers, with which Phrenology most distinctly teaches that that part of the brain has no direct connexion; and finding none of the faculties which he calls Attention, Perception, Memory or Imagination at all impaired, he, with great confidence, concludes, that the part in question *cannot be* the organ of *Cautiousness;* and so satisfied is he with his own reasoning, that he thinks himself entitled to ridicule those who do not see its cogency as clearly as he does himself. On any other subject, this mode of reasoning would be looked upon as proceeding from a very blameable and lamentable degree of ignorance; but such was once the state of the public mind, that, when directed against Phrenology, it was hailed almost universally as highly philosophical and satisfactory.

Even supposing, however, that the number of primitive faculties was known, still no dependence can be placed upon cases not observed, with a view "specially to this physiological inquiry;" for daily experience proves, that whenever a patient is able to return a rational answer to any simple question about his health, the surgeon and attendants, whose attention is not directed to the point, invariably speak of him as in full possession of all his faculties, although he is as unable to think or reason on any serious subject, with his accustomed energy and facility, as a gouty or rheumatic patient is to walk with his accustomed vigor. In one sense, no doubt, the former may be said to be in possession of all his faculties, just as the latter, merely because he can drag himself across a room, may be said to possess the power of muscular motion; but then the power of exercising the faculties may be, and is, as much diminished in the one case, as that of using the muscles in the other. Even take a convalescent from any acute disease, in which there has been no particular affection of the brain, and introduce a subject which requires a train of thinking, and concentration of mind, to which, in health, he is fully equal, so far from retaining his powers undiminished, he will soon be reminded of his enfeebled state, by painful confusion in the head, and other disagreeable symptoms. But, confine his attention to any thing which requires no effort on his part, and you benefit rather than harm him by such exercise, for it is then suited to the diminished vigor of his mind. Now, this is precisely the kind of discourse which the judicious surgeon permits to his patient, and from it alone he forms his own opinion of the state of the mind; and, therefore, a person in such state is uniformly said "to retain his faculties," &c. In like manner, the convalescent, gouty or rheumatic patient, if gently exercised by strolling about his room, reaps benefit and strength; but suppose you force him to an effort beyond what his muscular energy is calculated to support, the same bad effect is produced as in the case of the mind, and as well might this person be said to retain his power of voluntary motion undiminished, as the other all his force of intellect unimpaired.

That the evidence as to the state of the mind, after wounds or alteration of the cerebral mass, is really so vague and unsatisfactory, may easily be shown from Dr. Ferriar's paper, and from the Edinburgh Review, the text-books of the opponents. Besides the objection of extreme latitude in such expressions, as "no loss of sensibility," "no loss of voluntary motion," &c. &c., when used to indicate the condition of *all* the mental faculties, it may be remarked, that Dr. Ferriar speaks of one man as retaining all his faculties entire, who, it appears, had labored under hypochondriasis for ten years; a disease, the very existence of which implies a morbid activity of some of the mental feelings, and which, consequently, ranks in the list of insanities; and of a girl who, with evident symptoms of oppressed brain, is also said to have retained her faculties; and that the reviewer speaks of a lady, who, "the day before her death, was capable *of being roused from her stupor*;

and was then in possession of all her senses." But the idiot from birth, when roused from his natural stupor by the exaltation of a fever, appears sometimes to gain a considerable share of intellectual power, only to be lost upon recovery. Will he, too, then, be said to be in full possession of every faculty, because thus shown to be susceptible of excitation from stimuli? The inference, in the one case, is certainly as logical as it is in the other.

But, even allowing also that, from a previous acquaintance with the number and functions of *all* mental powers, we were qualified to judge of their *presence* or *absence*, it seems still to be a self-evident proposition, that before we can affirm that a man possesses them all *unimpaired* under disease, we must have had some previous knowledge of the relative degrees of endowment and energy in which he possessed them when in health. The differences of intellectual vigor, of temper, and of moral dispositions, between man and man, are exceedingly great. The scale extends from the lowest pitch of idiocy, up to the highest endowment of genius; and the history of diseases informs us, that a man, whose faculties have suffered a great diminution of energy, may still be able to return a rational answer to a question, although his mind is unable to fathom the depths it penetrated before. If, then, our first acquaintance with a patient suffering from an injury of the brain is formed by the side of his sick-bed *after* the accident has occurred, what means do we possess of knowing how far his mental powers in general, or any one in particular, have been injured or impaired? Even under the most favorable circumstances, the difficulty is by no means easily surmountable; and, when we consider that injuries of the head are by far more frequent in hospital than in private practice; and that, in the former, the surgeon has seldom seen the patient before, it will be obvious, that, even supposing the testimony as to the actual state of the faculties to be as specific and precise as it is general and vague, still, in a great majority of instances, the surgeon is unfavorably situated for speaking of the comparative force of any of them, seeing that this does not form the direct or usual object of his inquiries, and that, although it did, he must necessarily be ignorant of the degree in which they were manifested before the injury was sustained.

Having now shown that the observers quoted by the opponents were evidently neither acquainted with the number and functions of the mental faculties, nor in possession of any means of judging of the actual existence, or comparative diminution of any individual faculty, in cases of disease or wounds of the cerebral mass, I proceed to point out an anatomical requisite, which, although as essential as the other two, seems not to have been possessed in any perceptible degree by any of those to whom the cases occurred, or by whom they are quoted. I allude to knowledge of the *situation*, *form*, and *direction* of fibre of the several organs of which the phrenologists state the brain to be a congeries. Without this knowledge, any observations must manifestly be imperfect:—how, for instance, is a man to ascertain that the organ of Cautiousness has been wounded or destroyed, if he knows neither its local situation, nor the direction in which its constituent fibres run? And yet this is precisely the state of mind of those upon whose authority the objection we are now refuting is so strenuously urged:—nine-tenths of the cases occurred long before the organs were discovered, and the remaining tenth were, I believe, observed in ignorance of the discovery, so that all come under one class. If any one, indeed, could prove that he has found *both* the organs of Cautiousness destroyed, while the corresponding feeling was manifested as powerfully as before, then he would prove the operation of that sentiment to have been erroneously ascribed to that particular part of the brain. But unless he knows accurately the situation of that organ towards the surface, and the direction of its fibres towards the interior, whether they are horizontal, vertical, or oblique, and unless he ascertains the condition of the organs of both sides, How can he venture to affirm that they were destroyed either in whole or in part? We are told, it is true, by Mr. Rennel, and other opponents, that every individual part specified by Gall and Spurzheim has in its turn been destroyed, without injury to the faculty of which they call it the organ. But if we examine the foundations upon which such assertions rest, the same [illegible] the same inconclusive vagueness, will be found [illegible] as in the evidence of the state of the mind. Not a single [illegible] point can be produced; and it is evident that Mr. Rennel, as well as the other opponents, supposes the organs to be confined to the surface of the brain, instead of extending to its very base, to the medulla oblongata. They also, by what rules of logic I know not, appear to think injury of one organ sufficient to destroy the function of both, although they may see the reverse exemplified in individuals who hear or see well with one ear or one eye, after that of the opposite side has been destroyed.

The brain has been considered by many physiologists, and particularly by those of them who are hostile to Phrenology, to be a single organ, every part of which concurs in executing a single function, viz. that of manifesting the mind; but so far from supporting their own conclusions, the cases referred to, if true, are directly subversive of them, and leave no choice, except between the phrenological doctrine of a plurality of cerebral organs, and the notion that the brain, the most delicate, the best protected, and apparently the most important organ of the body, is, after all, a mere useless incumbrance, or at most, a mere mass fitted into a case, and placed at the top of the neck, more for the sake of ornament, or of preserving equilibrium, than for any more rational purpose; a conclusion which, however logically deducible from their own premises, they would, I am satisfied, be fully more averse to admit than the truth of Phrenology itself. The phrenological doctrine is, indeed, the only one by which these facts, so far as they are true, are at all explicable; for the moment we can prove, not only that the brain consists of two halves or hemispheres, but that each half is a congeries of parts performing distinct functions, all difficulty disappears, and the phenomena become consistent with the ordinary laws of nature. We then see how one side or one part may be wounded or diseased, without involving the functions of the opposite side, or of the other parts, just as one eye may be put out without destroying the function of the other, and the organ of one sense, sight for example, be injured or destroyed, while the organs of all the others remain sound.

Upon the same principle, it will be evident, that, before we can expect complete loss of any one faculty, the entire organ of *both* sides must be destroyed,—a fact which has been altogether overlooked by the objectors. For it will be seen upon an attentive examination of the cases quoted, that not a *single instance is recorded in which this destruction of both organs has occurred, while the alleged manifestations existed.* In almost all the cases, the injury or disease is expressly said to be on one side only; and where it is on both, the parts affected implicate different organs. But this will be better understood by an abstract of the cases themselves, as they are recorded in the Manchester Memoirs and in the Edinburgh Review. In perusing them, I beg the reader's attention to the vagueness of the information which they offer in regard to the integrity of the mental faculties, and also to the extent and nature of the cerebral injuries.

Mr. Earle relates the case of a man *whose sensibility* remained unaffected till within a few hours of his death, although an abscess occupied nearly one-third of the *right* hemisphere. Mr. Abernethy saw a gentleman who lived for two years in the full possession of every faculty, notwithstanding a cavity two inches broad by one long in the *right* hemisphere. Another was perfectly sensible with an abscess in the *left* hemisphere. Sir John Pringle* found an abscess in the *right* hemisphere, as large as an egg, in a patient "*who had never been delirious, nor altogether insensible;*" and in another, "*who had never been so insensible as not to answer reasonably when spoken to,*" he found an abscess in the *cerebellum* as large as a pigeon's egg. Dr. Ferriar says that Dr. Hunter found the whole of the *right* hemisphere destroyed by suppuration, in a man who retained his faculties to the last. One of Wepfer's patients manifested no *loss of sensibility*, although a cyst was found in the *right* hemisphere of the brain as large as a hen's egg. Diemerbroek saw a young man who received a thrust from a sword, which entered at the eye, and passed upwards through the *right* ventricle, as far as the sagittal suture. During ten days he "*remained quite well,*" with no loss of sensibility, of voluntary motion, or of judgment, "cum sociis convenienter, et bono cum judicio, quacunque de re disserens;" after which he was cut off by a fever. Petit[*] saw a soldier, shot through the *left* lobe of the cerebellum and *left* posterior lobe of the brain, live forty-three hours, whose faculties were perfect to the last. Another man, mentioned by Quesnai as seen by Bagieu, received a musket-shot from below upwards through the *right* anterior lobe, who had *no bad symptom* till the twelfth day, and ultimately recovered. Next are mentioned three cases; in the first of which a ball, in the second the end of a stiletto, in the third a part of a knife, remained in the brain *without inconvenience* for some years. Genga tells us of a man who, from a blow on the *left* parietal and occipital bones, lost a portion of brain as large as a pigeon's egg, and *yet recovered*. Petit saw a man with a corpus striatum converted into a matter like dregs of wine, with no *loss of sensibility*, although one side was paralyzed. Valsalva saw an old man who was *not insensible*, with an abscess of the *right* thalamus opticus extending to the surface of the brain. Then come some cases of diseased pineal gland and cerebellum, without loss of sensibility. The Reviewer then speaks of a lady who complained for a fortnight of an affection of the head, became comatose, and died. "The day before her death she was capable of being roused from her stupor, *and was then in full possession of all her senses.*" The *left* hemisphere of the cerebellum was converted into pus. Then follows a case from La Peyronie, nearly similar, without *loss of sensibility*. Drelincurtius[†] saw a steatomatous tumor as large as the fist between the cerebrum and cerebellum, produce first blindness, then deafness, and at last the abolition " omnium sensuum et functionum animalium, et necem ipsam." Dr. Tyson[‡] mentions a case where the *left* hemisphere of the cerebellum was found sphacelated, and the testis of that side enlarged and stony. The patient had been ill two months, and for the most part rational. In the Mémoires de l'Acad. Royale, 1703, Duverney relates a case of extensive injury, *without loss of sensibility*. The Chevalier Colbert received a blow from a stone upon the temple, which drove in the bones forming the back part of the orbit, as well as the sella turcica. The inferior portion of the middle lobe of the brain, as far as the cerebellum, was found broken down, and partly in a suppurating state. He lived seven days, "retained his judgment perfectly, continued to perform all his functions, and exhibited a surprising tranquillity of mind till his death." Ferriar attaches little importance to this case, as confused. One of the most remarkable cases, is that quoted by the Reviewer from Planque, and by Dr. Ferriar from La Peyronie, as having occurred to Billot.* A boy of six years received a pistol-shot in the middle of the brow, which passed through to the occiput. He survived eighteen days, and lost a portion of brain as large as a nutmeg daily, and yet *remained quite well* until within a few hours of his death. The portion of brain, found remaining in the skull, *did not exceed the size of a small egg.*

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* Diseases of the Army, p. 259.

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[*] Mémoires de l'Acad. 1748. [†] Addend. ad Wepfer, Hist. Apop. Obs. 83. [‡] Phil. Trans. No. 228

The Reviewer then quotes three cases of hydrocephalus internus, or water in the head, which convince him that *sensibility* may remain after the whole brain has been destroyed.

Many of the Reviewer's cases are taken from Dr. Ferriar's paper in the Manchester Memoirs. I shall, therefore, select the most interesting of those which he has omitted. Diemerobrek† quotes a case from Lindanus, of a patient receiving a wound in *one* of the lateral ventricles, who went about as usual for fourteen days, and then died. His surgeon thrust a probe into the ventricle every day, without exciting any sensation. He says‡ he saw a woman who lost a portion of brain as large as the fist, from a fracture of the *right* side. She lived thirty-six days without alienation of the mind, although paralytic on the opposite side. In the appendix to Wepfer's Hist. Apoplect., Dr. Brunner mentions a case of a drunken blacksmith, aged sixty-four, who died of apoplexy, whose faculties were rather excited than impaired, although he observed, after death, "piam matrem aqua turgidissimam.—Ablata dura matre serum perpetim exsudavit et effluxit limpidum. Uterque ventriculus aqua scatebat turbida, quin omnes recessus et cerebri cavitates hac inundatæ et repletæ fuerunt. Cerebellum minime flaccidum, sed sicut reliquæ cerebri partes firmum apparuit, &c. He was rather acute in his intellect towards the end. La Peyronie mentions a case of a man who had been troubled with hypochondriacal symptoms for ten years, whose faculties were never affected, although the fourth ventricle and *cerebellum* were found diseased. A girl died in the fourth month of an arthritic complaint, with *evident symptoms of oppressed brain*, but in perfect possession of her intellectual powers, although the brain was soft and water effused. Bonnet saw a case, where, after eleven days' illness, and, only towards the end, occasional alienation of mind, "tota fere basis cerebri, imprimis cerebellum, et ea pars medullæ spinalis quæ primis vertebris excipitur, sphacelo inventæ sunt correptæ."

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* Mém. de l'Acad. 1741.

† Anat. lib. iii. p. 637.

‡ Page 580-1

Dr. Ferriar concludes, by quoting from Ambrose Paré, what he considers a most extraordinary case; but Paré's authority being very great, he thinks it merits confidence. It is that of the Duc de Guise, "who was wounded in the head by the thrust of a lance, which entered *under* the right eye, near the nose, and came out at the neck, between the ear and the vertebræ. The steel remained *in the brain*, was extracted with great difficulty, and the patient recovered." Such are the principal cases.

The farther removed an account is from what we are accustomed to observe in ordinary circumstances, the stronger is the evidence required, before we can believe it, and inversely. So, in the present instance, when we find almost all the cases mentioned, consisting of very partial injury of *one* side only of the brain, with no striking disturbance of *intellect*, we are not disposed to be scrupulous in admitting them to be true. We see such things occur in our own day, and they are, in themselves, sufficiently probable; seeing that the organs are double, and that one may be affected without the other participating in the injury; and that the organs of the intellectual faculties constitute so small a portion of the brain, as to leave nearly two-thirds of the whole mass to be destroyed on *both* sides, without necessarily interfering with the intellect. But when we come to such cases as that of the boy, who is said to have lost all his brain excepting "*about the bulk of* *an egg*," and yet "*remained quite well*" till within a few hours of his death, we are compelled to pause, and ask for stronger evidence than that afforded by a quotation at third hand of a single case. Neither the Reviewer nor Dr. Ferriar appear to have seen Billot's own account of it, since each has quoted from a different source; and not having been able to procure the original work, I know not whether it is correctly quoted by either. But if *one* such case could be made out by incontestable evidence, it would not only lay prostrate the whole fabric of Phrenology, but it would save us a great deal of time and useless labor at present spent in trying to find out the functions of a part, which, according to this account, could not possibly have any; and, therefore, when we see the whole body of physiologists persevering in their endeavors to discover the uses of the brain, with as much zeal and earnestness as if no such case had ever been heard of, the only conclusion which we can legitimately draw is, that they, hostile as most of them are to Phrenology, have just as little faith in the accuracy of the details as the phrenologists themselves; and if they disregard the story as unworthy of credit, we have surely, at least, an *equal* right to pursue a similar course, and to withhold our belief. In like manner, when we are told, as in the three cases alluded to by the Reviewer, of the faculties remaining entire after the complete destruction of the brain by water, we are entitled to require evidence of no ordinary force before giving credit to their truth, more especially since the late discoveries by Gall and Spurzheim of the structure of the brain, show the fallacy of the appearances commented upon as indicating the absence of that organ.

Out of the twenty-nine cases here quoted from different authors, *eighteen* expressly refer to injury of *one side only*. These require no remarks; for, granting that none of the faculties were lost, there still remained the sound organs of the opposite side to execute the functions. *Five* more expressly refer to injury or disease of the *cerebellum* and *fourth ventricle*, parts which have no immediate connexion with the exercise of the *intellectual* faculties, which alone are mentioned. In two, the side is not mentioned. In three more, the *whole* brain was extant, but altered in appearance, and, lastly, comes the case *par excellence*, in which the brain had almost disappeared, and which, if admitted, would undoubtedly bury Phrenology and its opponents in one common ruin. Some of these demand a few observations.

In Dr. Brunner's case of the drunken blacksmith, who died apoplectic, the whole of the brain was still extant at his death; but a quantity of water was found effused upon it; notwithstanding which, he not only retained his faculties, but was even more acute. "Cerebellum minime flaccidum, sed sicut reliquæ cerebri partes firmum apparuit." This is the consequence of a certain degree of inflammation, which, in the case of the brain, as well as in that of other organs, often *exalts* instead of diminishing the function. Hence *it* proves nothing against us. The effusion appears to have been the cause of the apoplexy and of death.

In the hypochondriacal patient, already referred to, even supposing all the faculties to have been unimpaired, the visible seat of the disease was confined to the *cerebellum* and fourth ventricle, and did not extend to the organs of the *intellectual* powers. In Bonnet's case of eleven days' illness, with occasional alienation towards the end, where the cerebellum, part of the base of the brain, and a portion of the medulla spinalis, were mortified, "sphacelo inventæ sunt correptæ," the part of the base of the brain is not mentioned; and, therefore, no conclusion can be drawn in favor of any of the organs of the intellectual faculties having been even partially destroyed; and, besides, there is every reason to believe the sphacelus not to have existed for any length of time, but to have been the immediate forerunner of death.

Lastly, Although what Dr. Ferriar calls the very extraordinary case of the Duc de Guise, be included in the eighteen cases of injury of one side only, it is deserving of particular attention. The lance entered *under* the right eye, near the nose, and came out at the neck between the ear and vertebræ. The steel, it is said, remained *in the brain*, was extracted with difficulty, and recovery followed. The state of the faculties is not even mentioned. In this case, he says, the base of the *brain* must have been extensively injured. I humbly apprehend, however, that the brain was not, and could not be touched. Let any one examine on the living, or on the dead subject, the direction of such a wound, and he will instantly agree with me in opinion, and will then be at no loss to account for the difficulty of extracting the steel. Having seen it stated in Boyer's *Traité des Maladies Chirurgicales*, that the spear entered *above* the eye, I procured the original work of Ambrose Paré, and found that Dr. Ferriar was right in saying that it entered *under* the eye. *But* Paré *never once mentions either brain or faculty.* He says, " The head of the lance stuck so fast as to require a pair of smith's pincers for its extraction. Although the violence of the blow was so great, that it could not be without *fracture of the bones, a tearing and breaking of the nerves, veins and arteries, and other parts*, yet the generous Prince, by the favor of God, recovered." p. 235, lib. x. Although the state of the faculties is not mentioned by Dr. Ferriar, I remember to have read in some French historical author, that the Duke bore the extraction with great fortitude, and retained his faculties apparently undiminished, and the above quotation accounts perfectly for the fact; for it shows that the brain was not in the least affected, the wound being altogether below it. In the case of the Chevalier Colbert, also, Dr. Ferriar says, the eye was crushed to pieces, and the orbit knocked in; which misapprehension must have arisen from the confused account given by the original author Duverney; for, in point of fact, the stone struck the *temple*, and not the front of the eye.

Little confidence can, at any time, be placed in the history of dissections, made only to discover the cause of death, when afterwards applied to physiological purposes. The surgeon, who has been in the habit of seeing numerous dissections, and particularly in hospital practice, made with this object alone in view, knows well how *very general* the examination of the diseased parts frequently is, even when seated in organs whose structure and functions are both known; and this observation naturally applies with double force to parts so little known as those contained in the cavity of the cranium. The Edinburgh Reviewer himself, in speaking of some parts (such as the corpus callosum, fornix, &c.,) which have *not been expressly mentioned* as destroyed, says, p. 446, "We believe, indeed, that several, if not the whole of them, were actually destroyed in the cases we have quoted; but that they were omitted in the detail of the dissection, either from a fear of being tedious, or because the authors did not conceive *minuteness of description to be an object either of practical or physiological importance*. As it is, however, instances are still wanting, in *which the parts we* have enumerated are *expressly stated to have been destroyed;* and we beg leave to call the attention of the physiologists to this circumstance," &c. The phrenologists in like manner, beg leave to call the attention *of the public to this circumstance*, that instances are still wanting, in which any one of their organs is expressly stated to have been destroyed, and the function to have remained unimpaired.

To such an extent, indeed, have anatomical structure and minuteness of detail been neglected in the history of the diseases and injuries of the cerebrum and cerebellum, *in so far as they are connected with the mind*, that in almost every instance, the palpable fact of the organs being double has been overlooked: and not only has no attention been paid to the situation of the individual organs, in examining the effects of their injuries in relation to Phrenology, but it never has once been taken notice of by the opponents, that, while they confine their attention to the state of the *intellectual faculties alone* in all cases of wounded brain, the organs of these faculties, in the new system, constitute not more than one-third of the whole cerebral mass, and that the other two-thirds constitute the organs of the sentiments and propensities, which are never inquired into, as not being conceived to have any thing to do with the brain.

As it appears, then, notwithstanding the affirmations of the opponents, to be quite consistent with the principles of Phrenology, that injuries of the brain may occur, without necessarily affecting the *intellectual* faculties, I might, perhaps, here safely drop the subject. Before quitting it, however, we may shortly inquire how far the cases referred to coincide, or are compatible with the doctrines which the opponents themselves profess. Many of them teach, for example, that the whole brain is the organ of mind, and that every part of it is engaged in every act of thought. Now, it seems to me, that their own cases are fatal to any such theory; for as the brain is subject to all the ordinary laws of animal organization, were any part of that general organ injured, the function, even according to their own account, ought always to be impaired in proportion. Instead of which, they tell us, that the function which they believe it to execute, does not suffer with *almost total* destruction of the organ! No other part of the human body is known to retain its functions unimpaired, amidst total or partial change, or destruction of its structure; and, therefore, had they not been blinded by preconceived opinions, they must have perceived that the very circumstance of the brain being partially injured, without any considerable derangement of intellect, was sufficient to prove that every part of that organ was *not* necessary to every individual act of mind, and that the brain was not the single organ they believed it to be.

Phrenology, or the doctrine of a plurality of organs and faculties, alone satisfactorily explains the apparent contradiction, by showing that the state of one organ, or part of the brain, does not necessarily affect the condition and functions of the others, and thus the phrenologist, who considers particular parts of the brain to be the organs of distinct mental faculties, may be quite consistent in believing, that one of these organs, and the faculty with which it is connected, may be wounded and impaired without necessarily inducing any diminution or alteration in the functions of the others; and as he thinks it proved, that two-thirds of the brain constitute the organs of the propensities and sentiments, he may still be quite consistent in believing, that large portions of these two-thirds, even on both sides, may be injured without necessarily disturbing, in any high degree, the *intellectual* operations carried on by the remaining sound third, which he has previously ascertained to constitute the organs of the *intellectual* faculties. But the opponent, who believes in the *unity* of the brain, is very differently circumstanced, and can no more account for the intellect continuing unimpaired, after the destruction of *any* part, than he could for sight remaining unaffected by disease, or destruction of the eye. What, then, are we to think of the consistency of those philosophers, who, like Dr. Ferriar, in one page gravely doubt whether the brain has not been altogether destroyed, without loss of mental faculties; and yet in another declare that they consider, as he does, "these medical facts as almost demonstrating that the brain is the *instrument*,—not the cause, of the reasoning powers?" We, too, consider the brain as the instrument of the mental faculties; but we are not so inconsistent as to suppose, that it is a matter of indifference to the manifestations of these faculties, whether that instrument be a whole or a broken one, or have even altogether ceased to exist. We farther consider that Phrenology, so far from having any thing to fear from these "medical facts," derives additional confirmation from them, since it is upon phrenological principles alone that they are either explicable or consistent with any of the known laws of nature. It is in such circumstances that the new science rises so far superior to any theory of the mind hitherto invented; and it can only be from its being founded on the solid basis of truth, that it is ever so beautifully and simply consistent with the observed phenomena of mind, alike in a state of health and of disease.

I proceed, before concluding the subject, (being in some measure connected with the present essay,) to make a few observations on a mode of investigating the functions of the individual parts of the brain, proposed by that excellent surgeon Sir E. Home,[*] and differing widely from that in use among the phrenologists. "The various attempts," says he, "which have been made to procure accurate information respecting the functions that belong to individual portions of the human brain, having been attended with very little success, it has occurred to me, that were anatomical surgeons to collect, in one view, all the appearances they had met with, in cases of injury of that organ, and of the effects that such injuries produced upon its functions, a body of evidence might be formed, that would materially advance this highly important investigation."

As this mode of inquiry is still looked upon by many as the most promising and philosophical that has yet been tried, and as such is recommended by the Edinburgh Review, it may be worth while to see what it is really able to effect. To me it appears to be totally inadequate to the purposes of original discovery, although it may be usefully employed to procure additional information, *after* the functions of the different parts of the brain have been ascertained by other means.

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[*] Philosophical Transactions for 1814, p. 469.

The defects of this mode of investigation, are, 1*st*, That so long as we remain unacquainted with the situation and limits of the different cerebral organs, it is impossible for us to pronounce, whether, in any given case, one only, or several, are implicated; and also, whether the destruction of any organ is partial or complete.

2dly, That so long as we remain ignorant of the number and functions of the mental faculties, and of the effects of their various combinations with each other, we are necessarily unable to decide in any case, what particular faculty or quality of mind has been impaired or destroyed. Some faculties, for instance, require the presence of such external objects for their operation, as are not to be found in the chambers of the sick, or in the wards of an hospital; and, therefore, it is possible that the power may be altogether destroyed, and yet its absence may not even be suspected by the surgeon or his attendants, who never were aware of its existence as an independent faculty, even when the brain was entire.

3dly, That the complex and delicate structure of the brain makes it exceedingly difficult, if not impossible, to injure or destroy one part without the neighboring parts, and the functions which they perform, participating in a greater or less degree. Thus, Professor Rolando of Turin, who has devoted much of his time to the study of the anatomy and functions of the brain, in speaking of mutilations, which he had performed with a view to discover the functions of a particular part of that organ in the lower animals, complains of this as an almost unsurmountable obstacle. "I have made," says he, "innumerable experiments to discover the results of injuries done to the bigeminal tubercles, the parts in the neighborhood of the optic thalami, *but I have* *ely obtained consistent results*; which is not surprising, if we nsider the peculiar interlacing of the numerous medullary fibres hich meet in these parts; for, as it is extremely difficult to know hat bundles of fibres have been affected in these operations, we cannot draw clear and precise conclusions where there is a difference in the result." If this holds true with regard to mutilations performed with every precaution to avoid wounding other parts, and under every advantage which an acquaintance with anatomy can afford, it certainly applies with tenfold force to injuries, the results of accidental and unguided violence.*

Lastly, That, from the mere aspect of the wound, we are never certain of the precise extent of the injury done to the brain; and, consequently, can never positively refer the phenomena to an affection of any particular part, and of it alone. One injury, for instance, apparently of the very slightest nature, often produces the most serious constitutional symptoms, and disturbance of the whole mind; while another, to appearance much more severe, is productive of little inconvenience. In the former, the effects of the violence seem to extend either immediately or from sympathy over the whole brain, or at least, much farther than its external or visible seat, while, in the latter, the affection is more strictly of a local nature; and thus the results obtained in one case are often entirely negatived by those obtained in another.

In accordance with, and in corroboration of the opinion which I have here ventured to express, as to the total inadequacy of this mode of investigation for the purposes of original discovery, I would ask no better authority than Sir E. Home himself. For although, for the sake of greater accuracy, he confines himself to cases which have come under his own immediate notice, and, although these must have been observed with a view specially to this inquiry; yet, his own essay on this subject affords the most convincing proof and apposite illustration of all the defects of the mode which it is written to recommend. The first things, for example, that strike the reader on referring to it, are, 1*st*, That out of the *ten* classes, into which the cases are purposely divided by Sir Everard, no less than *seven*, (1. Undue pressure of water on the brain, 2. Concussion of the brain, 3. Preternaturally dilated or diseased blood-vessels of the brain, 4. Extravasated blood, 5. Formation of pus, 6. Depression or thickening of parts of the skull, 7. Pressure from tumors,) resolve themselves into affections, in which the *totality* of the brain is, in some way or another, concerned; *2d*, That, in one, (viz. 8. Injury of the medulla spinalis,) *the entire brain is unaffected;* and, *3dly*, That *in two only*, (9. Injury to the substance of the brain; and, 10. Alteration of structure,) is the affection generally confined to *individual* portions of that organ; although in very many instances, even in these two classes, it extends over the whole brain. From his own statement, then, the reader would naturally anticipate *a priori*, that the effects resulting from most of these injuries would be such as are known to indicate derangement, not of one, or of several, but of all the parts of the brain; and, consequently, that they could not, by any possibility, lead to the discovery wished for, of the functions of its *individual* portions. Accordingly, Sir Everard himself informs us, that the effects produced are, *delirium*, *convulsions*, *coma*, *apoplexy*, *sickness*, *watching*, and the like, and not lesion of any particular faculty, or of any individual function. In one or two instances, indeed, the state of the memory and of the external senses is mentioned, but without being connected in any way with specific injury. The reviewer himself, with every wish to be pleased with Sir Everard's method, is constrained to say, that the results obtained in this manner are so vague and contradictory, that they "serve only to confirm what had already perhaps been sufficiently made out by the authors we have named; to-wit, that there is no sort of uniformity either in the kind or degree of the symptoms which accompany diseases of the brain." And in this sentiment I cordially concur with him, in so far as regards violent injuries.

To render the results obtained, either from observing the effects of cerebral injuries in man, or from the performance of mutilations upon the brains of animals, at all valuable in illustrating the cerebral physiology, a previous knowledge of the seats of the organs, itive powers in different degrees of relative proportion. It is with great truth, therefore, that Monsieur De Bonald, quoted by Mr. Stewart, observes, that, "diversity of doctrine has increased from age to age, with the number of masters, and with the progress of knowledge; and Europe, which at present possesses libraries filled with philosophical works, and which reckons up almost as many philosophers as writers; poor in the midst of so much riches, and uncertain, with the aid of all its guides, which road it should follow; Europe, the centre and focus of all the lights of the world, has yet its *philosophy* only in expectation."

May I hope that Phrenology will now appear to the attentive reader calculated to supply the deficiency here pointed out, and to furnish Europe, at last, with the Philosophy so long in expectation?

Hitherto the writings of Dr. Gall have been little known to the British public, except through the medium of hostile reviews; and the most unmeasured ridicule and abuse have been poured out against them, as if they were a disgrace to the century in which they were produced; his fellow laborer Dr. Spurzheim has sustained an equal share of this unmerited storm. In preparing the present volume for the press, I have drawn largely from the works of both of these founders of the science; in many instances I have compared their statements of fact with nature; sifted their arguments, and weighed deliberately their conclusions; and I now feel it an imperious duty to state, that the present generation has, in my humble judgment, re-acted, in their cases, the scenes which have attached so deep a stigma to the ages of Galileo and Harvey. The discoveries of the revolution of the globe, and the circulation of the blood, were splendid displays of genius, interesting and beneficial to mankind; but their results, compared with the consequences which must inevitably follow from Dr. Gall's discovery of the functions of the brain, (embracing, as it does, the true theory of the animal, moral and intellectual constitution of man,) sink into relative insignificance. Looking forward to the time when the real nature and ultimate effects of Dr. Gall's discovery shall be fully recognised, I cannot entertain a doubt that posterity will manifest as eager a desire to render honor to his memory, as his contemporadrawn any such inference. Wounds and diseases of the cerebellum, for instance, have forced themselves upon their notice, where the sexual propensity was extinguished by loss of substance, or preternaturally excited by the subsequent inflammatory action ; and yet no one drew the inference that the cerebellum was the organ of Amativeness.* The temper and moral sentiments have also been entirely changed, in consequence of certain injuries of the brain, while the intellect remained unimpaired ; and no one drew the conclusion that the parts affected were the organs of these sentiments. Nor would they have been warranted in doing so, because instances of injury confined so entirely to one part as to affect its function, without having any influence upon those of the neighboring parts, are so rare, in comparison to those of an opposite kind, that no just inferences can be drawn from them alone ; although, combined with other evidence, they are highly important.

CONCLUSION

(TO THE SECOND EDITION.)

In the Introduction to this work, it is observed, that, "in surveying the philosophy of man, as at present exhibited to us in the writings of philosophers, we perceive, *first*, That no account is given of the influence of the material organs on the manifestations of the mental powers; that the progress of the mind from youth to age, and the phenomena of sleep, dreaming, idiocy, and insanity, are left unexplained or unaccounted for; *secondly*, That the existence and functions of some of the most important primitive faculties are still in dispute ; and, *thirdly*, That no light whatever has been thrown on the nature and effects of combinations of the prim tion. With profound gratitude and respect, therefore, I acknowledge myself indebted to him for the greatest gift which it was possible for one individual to confer on another,—a knowledge of the true Philosophy of Man.

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* Wepferns' Historiæ Apoplecticorum, edit. 1724, p. 487. Magendie's Journal de Physiologie for April and August, 1822; also Medical Repository, vol. xviii p. 268—358.—Larrey's Memoires de Chirurgie Militaire et Campagnes, vol. ii. p. 150; vol. iii. p. 262.

To my excellent friends, also, the Reverend David Welsh, Mr. Scott, Mr. Simpson, Mr. Lyon, and Dr. Andrew Combe, fellow-laborers with me in Phrenology, I owe many obligations. In availing myself freely of the lights they have struck out, it has been my constant wish to acknowledge the source of my information; but if, amidst the habitual interchange of ideas with which they have honored me, their discoveries have, in any instance, been amalgamated with my own thoughts, and their authors forgotten, I solicit their forgiveness, assuring them that inadvertency alone has been the cause of any such mistakes.

EDINBURGH, October, 1825.

POSTSCRIPT TO THE THIRD EDITION.

SINCE the foregoing observations were written, Dr. Gall has been numbered with the dead. Like many other benefactors of mankind, he has died without his merits being acknowledged, or his discoveries rewarded, by the "great in literature and science," of his own age; but he possessed the consciousness of having presented to the world, one of the most valuable discoveries that ever graced the annals of philosophy, and enjoyed the delight of having opened up to mankind a career of improvement, physical, moral and intellectual, to which the boldest imagination can at present prescribe no limits. This appears to be the reward which Providence assigns to men eminently gifted with intellectual superiority; and we may presume that it is wisely suited to their nature. A great duty remains for posterity to perform to the memory of Dr. Gall, and I cannot entertain a doubt, that in due time it will be amply discharged.

It gives me the greatest satisfaction to renew, after five years' additional experience, the acknowledgment of my highest gratitude and esteem for Dr. Spurzheim; and to express my earnest wish that Britain may, by suitable encouragement, retain him permanently to herself.

EDINBURGH, October, 1830.

POSTSCRIPT TO THE AMERICAN EDITION.

IT is painful in no ordinary degree to speak now of Dr. Spurzheim, in the past tense; but since the third Edition of this work was prepared, he too has been numbered with the dead. He died at Boston, in Nov. 1832, while zealously engaged in communicating the invaluable truths of Phrenology to a people in every respect worthy of the doctrine and of the man who came among them to teach it. The citizens of Boston, and of the United States generally, have appreciated the talents and moral worth of this most excellent philosopher; and in expressing my heartfelt sorrow for his loss, I render a sincere tribute of respect and gratitude to them for the kindness with which they received him, and the honors with which they enshrined his mortal remains. I respectfully offer this work to their candid consideration, and will feel highly gratified if it shall meet with their approbation

23 CHARLOTTE SQUARE, EDINBURGH,
September, 1833.

NAMES AND TITLES OF THE ORGANS ADOPTED BY DR. GALL.

No.	French.	German.	English Names given by Dr. Spurzheim.
1.	Instinct de la génération.	Zeugungstrieb.	Amativeness.
2.	Amour de la progéniture.	Jungenliebe. Kinderliebe.	Philoprogenitiveness.
3.	Attachement, amitié.		Adhesiveness.
4.	Instinct de la défense de soi-même et de sa propriété.	Muth, Raufsinn.	Combativeness.
5.	Instinct carnassier.	Würgsinn.	Destructiveness.
6.	Ruse, finesse, savoir-faire.	List, Schlauheit. Klugheit.	Secretiveness.
7.	Sentiment de la propriété.	Eigenthumssinn.	Acquisitiveness.
8.	Orgueil, fierté, hauteur.	Stolz, Hochmuth, Herrschsucht.	Self-Esteem.
9.	Vanité, ambition, amour de la gloire.	Eitelkeit, Ruhmsucht, Ehrgeitz.	Love of Approbation.
10.	Circonspection, prévoyance.	Behutsamkeit, Vorsicht, Vorsichtigkeit.	Cautiousness.
11.	Mémoire des choses, mémoire des faits, sens des choses, éducabilité, perfectibilité.	Sachgedächtniss. Erziehungs-Fähigkeit.	Eventuality.

No.	FRENCH.	GERMAN.	ENGLISH Names given by Dr. SPURZHEIM.
12.	Sens des localités, sens des rapports de l'espace.	Ortsinn, Raumsinn.	Locality.
13.	Mémoire des personnes, sens des personnes.	Personen-sinn.	Form.
14.	Sens des mots, sens des noms, mémoire des mots, mémoire verbale.	Wort-Gedœchtniss.	Language.
15.	Sens de langage de parole, talent de la philologie, &c.	Sprach-Forschungs-sinn.	Held by Dr. SPURZHEIM to be included in the last organ.
16.	Sens des rapports des couleurs, talent de la peinture.	Farben-sinn.	Coloring.
17.	Sens des rapports des tons, talent de la musique.	Ton-sinn.	Tune
18.	Sens des rapports des nombres.		Number.
19.	Sens de méchanique, sens de construction, talent de l'architecture.	Kunst-sinn, Bausinn.	Constructiveness.
20.	Sagacité comparative.	Vergleichender-scharfsinn.	Comparison.
21.	Esprit metaphysique, profondeur d'esprit.	Metaphysischer-Tiefsinn.	Causality.
22.	Esprit caustique, esprit de saillie.	Witz.	Wit.
23.	Talent poétique.	Dichter-Geist.	Ideality.

No.	French.	German.	English Names given by Dr. Spurzheim.
24.	Bonté, bienveillance, douceur, compassion, &c.	Gutmœthigkeit, Mitleiden, &c.	Benevolence.
25.	Faculté d'imiter, mimique.		Imitation.
26.	Sentiment religieux.		Veneration.
27.	Fermeté, constance, persévérance.		Firmness.

Names and Orders of the Organs, according to the Classification in the Previous Editions of this Work.

Order I.—FEELINGS.

Genus I.—Propensities.

1. Amativeness.
2. Philoprogenitiveness.
3. Concentrativeness.
4. Adhesiveness.
5. Combativeness.
6. Destructiveness.
   Appetite for Food.
7. Constructiveness.
8. Acquisitiveness.
9. Secretiveness.

Genus II.—Sentiments

1.—*Sentiments common to Man with Lower Animals.*

10. Self-Esteem.
11. Love of Approbation.
12 Cautiousness.
13. Benevolence.

2.—*Sentiments proper to Man.*

14. Veneration.
15. Hope.
16. Ideality.
   Wonder.
17. Conscientiousness
18. Firmness.

Order II.—INTELLECTUAL FACULTIES.

Genus I.—External Senses.

Feeling or Touch.
Taste.
Smell.
Hearing.
Sight.

Genus II.—Intellectual Faculties which perceive Existence.

19. Individuality.
    Upper Individuality.
    Lower Individuality.
20. Form.
21. Size.
22. Weight.
23. Coloring.

Genus III.—Intellectual Faculties which perceive the relation of external objects.

24. Locality.
25. Order.
26. Time.
27. Number.
28. Tune.
29. Language.

Genus IV.—Reflecting Faculties.

30. Comparison.
31. Causality.
32. Wit.
33. Imitation.

APPENDIX, No. I.

FACULTIES OF DR. GALL.

The Note referred to on page 85 is printed on page 362, to which the reader is respectfully referred.

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